XR-7190/7191/7280

SERVICE MANUAL

US Model
Canadian Model
XR-7280
AEP Model
XR-7190/7191
E Model
XR-7191

SONY
DSPL
MONO
LOCAL
METAL LOUD
XR-7280
MULTI FADER
DOLBY B·C NR
CD CHANGER CONTROL
OFF
M.SCAN
A.MEM
FM/AM
INTRO 1
REPEAT 2
BL.SKIP 3
SEEK AMS
CD
D.SCAN 4
SHUF 5
ATA 6
REW
MANU DISC
FF
TAPE
VOL/BAS/TRE/BAL/FAD
MUTE
SELECT

Photo: XR-7280

Model Name Using Similar Mechanism	XR-7080/7082/7180
Tape Transport Mechanism Type	MG-55D-31

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
14 watts per channel minimum continuous average power into 4 ohms, both channels driven, from 40 – 20,000 Hz with no more than 1% total harmonic distortion.

Other Specifications

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	3.2 – 8 ohms
Maximum power output	27 W × 2 (at 4 ohms)* 9 W × 4 (at 4 ohms)* *Measured at 14.4 V

Cassette player section

Tape track	4-track 2-channel stereo
Frequency response	30 – 18,000 Hz

Signal-to-noise ratio

Cassette type	Dolby B	Dolby C	Dolby off
TYPE II, IV	66 dB	76 dB	58 dB
TYPE I	63 dB	73 dB	55 dB

Wow and flutter	0.1% (WRMS)

Tuner section

FM

Tuning range	XR-7280:87.9—107.9 MHz XR-7190/7191:87.5—108.0 MHz
Antenna terminal	External antenna connector
Usable sensitivity	12 dBf (75 ohms)
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 70 dB (mono)
Harmonic distortion at 1 kHz	0.5% (stereo), 0.3% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

AM

Tuning range	XR-7280:530—1,710 kHz XR-7190/7191:531—1,602 kHz (at 9 kHz step) 530—1,602 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Sensitivity	35μV

General

Output lead	Power antenna relay control lead Power amplifier control lead
Tone controls	Bass ± 10 dB at 100 Hz Treble ± 10 dB at 10 kHz
Loudness	+ 10 dB at 100 Hz + 6 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions (without bracket)	Approx. 178 × 50 × 153 mm (w/h/d) ($7\frac{1}{8} \times 2 \times 6\frac{1}{8}$ inches) not incl. projecting parts and controls
Mounting dimensions	Approx. 182 × 53 × 145 mm (w/h/d) ($7\frac{1}{4} \times 2\frac{1}{8} \times 5\frac{3}{4}$ inches) not incl. projecting parts and controls
Weight	Approx. 1.9 kg (4 lb. 3 oz.)
Accessories supplied	Mounting hardware (1 set)

Design and specifications subject to change without notice.

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MICROFILM

FM/AM CASSETTE CAR STEREO

SONY®

Features

Tuner section
- SSIR (Sony Super Interference Rejection) PLL Synthesizer tuner
- Automatic memory function stores a total of 24 stations in memory quickly and easily.
- Memory scan function scans preset stations each for five seconds in order.
- The extended range in AM band (530-1,710 kHz)

Cassette deck section
- The auto-reverse function changes tape directions automatically.
- The C-type Dolby NR* system is incorporated as well as the B-type Dolby NR system.
- Intro play scans the beginning of each selection sequentially.
- The repeat play function enables a repeat play of the selection you are now listening to.
- The blank skip function automatically skips the blank portion longer than eight seconds and plays back the next selection.
- The ATA (Automatic Tuner Activation) function automatically turns on the tuner while fast-winding a tape or changing discs (when an optional CD auto-changer is connected.)

CD section (when the optional Sony CD auto-changer is connected)
- The intro play function plays the first ten seconds of each selection on every disc.
- The repeat play function enables a repeat play of the selection you are now listening to.
- The disc scan function plays the first ten seconds of the first selection on each disc.
- The shuffle play function plays selections in random order.
- The ATA function automatically turns on the tuner while changing discs.
- Manual search allows you to search for a desired point in a selection.

General
- Slide-out security bracket allows you to take the unit away with you when you leave your car. You can also choose the fixed mounting with the supplied attachment hardware.
- You can choose an illumination color between amber and green.
- With the built-in amplifier, you can enjoy 4-speaker system.

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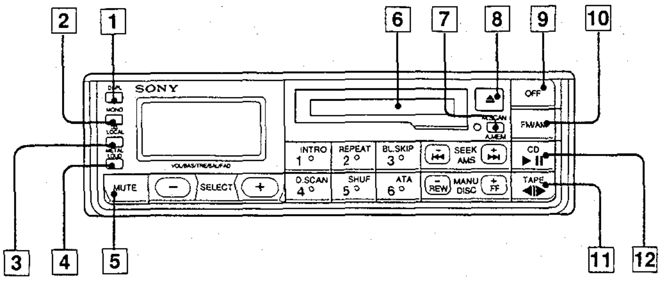
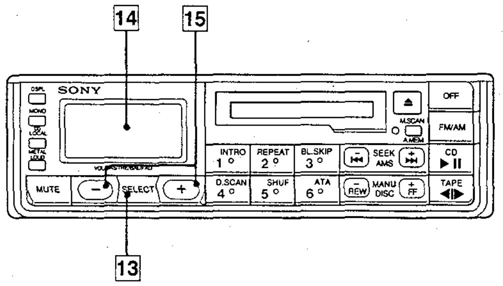
SECTION 1
GENERAL

Location and Function of Controls





Refer to the page in ● for details.

[1] **DSPL (display) button ❽**

	During radio reception	During tape playback
[2]	**MONO (monaural) button ❾**	**□□ button ❽**
[3]	**LOCAL button ❾**	**METAL (metal/CrO₂) button ❽**

[4] **LOUD (loudness) button**
Press to reinforce bass and treble especially when listening at low volume. To disengage the button, press it again.

[5] **MUTE button**
Press to momentaly mute the sound. Press again to restore the same level as before.

[6] **Cassette insertion door**

[7] **M.SCAN (memory scan)/A.MEM (automatic memory) button ❾ ❿**

[8] **≜ (eject) button**

[9] **OFF (power off) button**

[10] **FM/AM (radio on/band select) button**

[11] **TAPE ◀▮▶ (playback/transport direction change) button ❽**

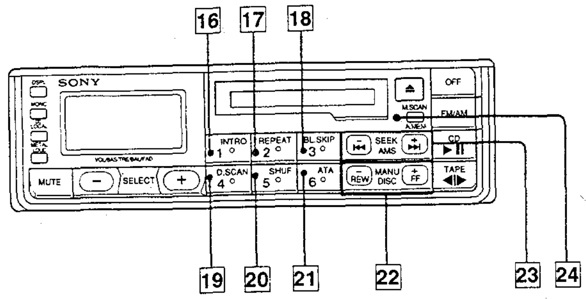
[12] **CD ▶II (disc play/pause) button**

[13] **SELECT (control mode select) button**
Press to select the desired mode, BAS (bass), TRE (treble), BAL (balance), FAD (fader), or VOL (volume).

[14] **Display window**

[15] **(−)(+) (volume/tone/balance/fader control) button**
(−)(+) button normally functions as the volume control. Adjust the level within three seconds after selecting the desired control mode. Otherwise, the mode goes back to the volume control mode.

Display window	Control mode	(−) SELECT (+)	
		Press (−)	**Press (+)**
BAS	Bass control	For less bass	For more bass
TRE	Treble control	For less treble	For more treble
BAL	Balance control	To decrease the right-speaker volume	To decrease the left-speaker volume
FAD	Fader control	To decrease the rear-speaker volume	To decrease the front-speaker volume
VOL	Volume control	For less volume	For more volume



	During tape playback	During disc play	During radio reception
[16]	**INTRO button ❽**		**Preset number buttons ❿**
[17]	**REPEAT button ❽**		
[18]	**BL. SKIP (blank skip) button ❽**	—	
[19]	—	**D.SCAN (disc scan) button**	
[20]	—	**SHUF. (shuffle) button**	
[21]	**ATA (automatic tuner activation) button ❽**		
[22]	**FF/REW (fast forward/ rewind) button ❽**	**DISC (disc change/manual search) button**	**MANU (manual tuning) button ❾**
[23]	**AMS* button ❽**		**SEEK (automatic tuning) button ❾**

[24] **Reset button**
Press this button when you use this unit for the first time and when you have changed the car battery, or when other buttons do not function. The reset button is effective only when the unit is mounted in the bracket.

* Automatic Music Sensor

Note: The mute function, intro play, repeat play, disc scan, and shuffle play (1 and 2) will be cancelled when you press the OFF button or when you keep the ignition key set to the off position for more than eight seconds. The blank skip function and the automatic tuner activation will be maintained until you press each button again.

To change illumination colors

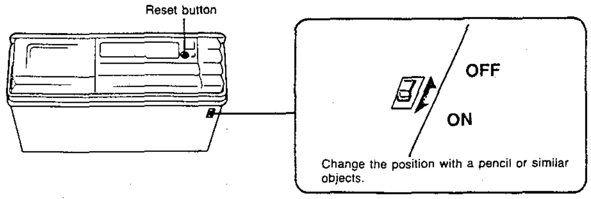
Press [1] while pressing the SELECT. Press these buttons again to restore the same color as before.

To mute a beep sound

Press [6] while pressing the SELECT.
To obtain the beep sound again, press these buttons again.

Notes on the Power Select Switch

You can choose illumination mode by changing the power select switch located on the bottom.



Change the position with a pencil or similar objects.

When you set the ignition key to the accessory position,

Power select switch	ON	OFF
Illuminate where?	**OFF, TAPE, FM/AM, CD, ≜ buttons and the cassette insertion door**	**No illumination**

- When you activate the unit, all parts of the panel illuminate, regardless of the position of the switch.
- If your car has no accessory position, we recommend you to set the switch to the OFF position.
- Be sure to press the reset button after changing the position of the switch.

Installation/Installaton

Precautions

- Choose the mounting location carefully so that the unit will not interfere with the normal driving functions of the driver.
- Avoid installing the unit where it should be subject to high temperatures, such as from direct sunlight or from hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.

Précautions

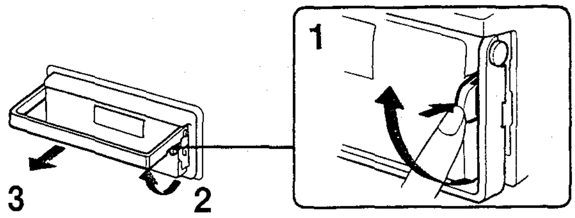
- Choisir soigneusement l'emplacement de montage pour que l'appareil n'interfère pas avec les fonctions normales de conduite du véhicule.
- Eviter d'installer l'appareil là où il est susceptible de subir une haute température telle que celle de la lumière directe du soleil ou provenant d'un appareil de chauffage ou là où il serait exposé à la poussière ou la saleté ou à une vibration excessive.
- Utiliser uniquement le matériel de montage fourni pour effectuer une installation sûre.

To Remove the Unit

Retrait de l'appareil

When installed with the carrying handle

Lorsque l'appareil est installé avec la poignée de transport

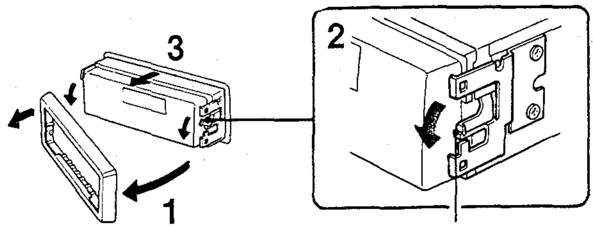


To prevent the unit from being stolen
When you leave your car, remove the unit from the bracket and take it away with you.

Prévention contre le vol
Lorsque l'on quitte la voiture, enlever l'appareil du support et l'amener avec soi.

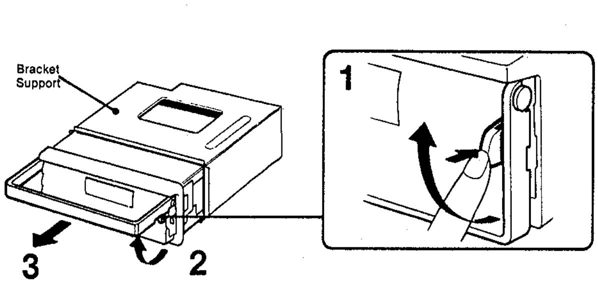
When installed without the carrying handle

Lorsque l'appareil est installé sans la poignée de transport.

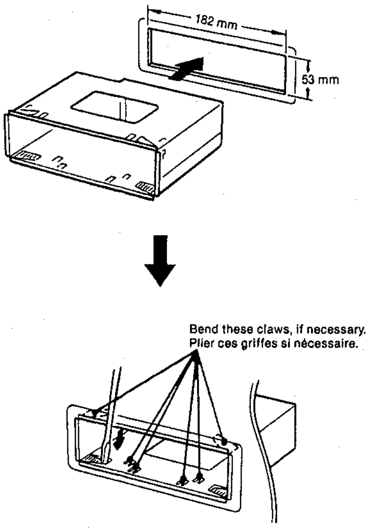


Press down the silver part slightly not to break the part.
Appuyer sur la partie grise légèrement afin de ne pas briser cette partie.

1 Remove the unit from the bracket.
Déposer l'appareil du support.

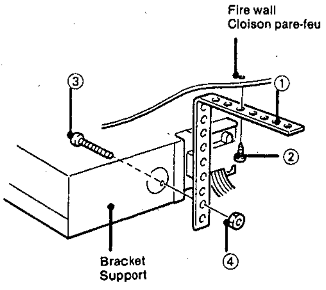

Bracket
Support
1
3
2

2 Install the bracket in the dashboard.
Installer le support dans le tableau de bord.

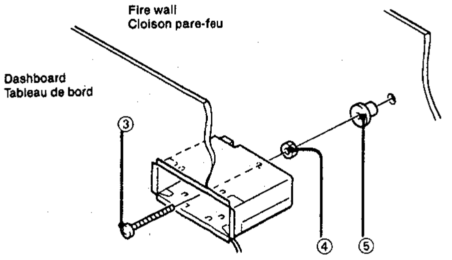


Bend these claws, if necessary.
Plier ces griffes si nécessaire.

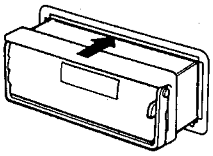
Example 1
Exemple 1


Fire wall
Cloison pare-feu
③
①
②
④
Bracket
Support

Example 2
Exemple 2

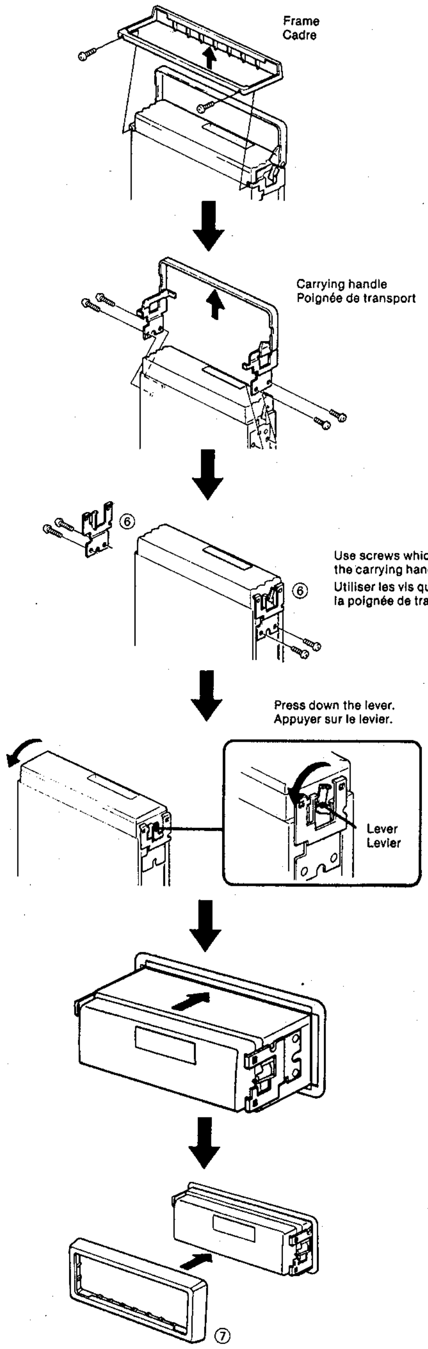

Fire wall
Cloison pare-feu
Dashboard
Tableau de bord
③
④
⑤

3A When installing the unit with the carrying handle
Installation de l'appareil avec la poignée de transport



Push in the unit until it is locked firmly.
Pousser l'appareil jusqu'à ce qu'il soit bien bloqué.

3B When installing the unit without the carrying handle
Installation de l'appareil sans la poignée de transport


Frame
Cadre
Carrying handle
Poignée de transport
⑥
⑥
Lever
Levier
⑦

Use screws which fixed the carrying handle.
Utiliser les vis qui fixaient la poignée de transport.

Press down the lever.
Appuyer sur le levier.

Connections/Connexions

Caution

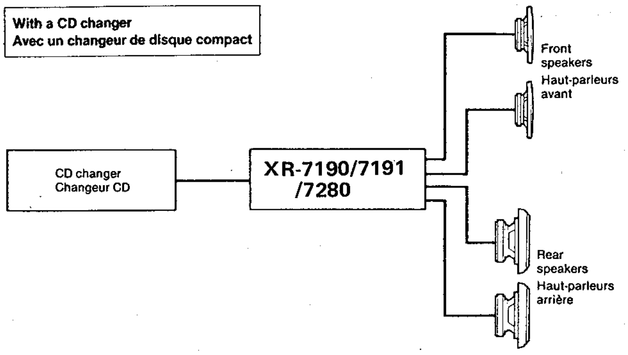
- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **red** power input lead only after all other leads are connected. And be sure to connect it to the positive 12 V power terminal. It will be energized when the ignition key is set to the accessory position.
- **Run all ground wires to a common ground point.**

Attention

- Cet appareil est conçu uniquement pour un fonctionnement sur courant continu de 12 volts avec mise à la masse négative.
- Avant d'effectuer les connexions, déconnecter la borne de masse de la batterie de voiture pour éviter des courts-circuits.
- Connecter le fil d'entrée d'alimentation **rouge** uniquement une fois tous les autres fils connectés.
  S'assurer de le connecter à la borne positive 12 volts qui est énergétisée lorsque la clé de contact est mise sur la position accessoire.
- **Amener tous les fils de masse sur un point commun.**

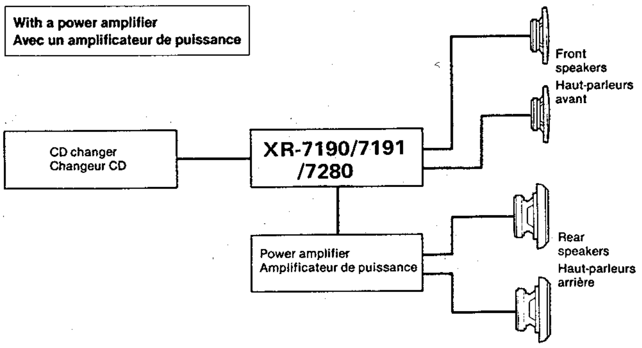
System Connection/Connexion du système

With a CD changer
Avec un changeur de disque compact



CD changer
Changeur CD
XR-7190/7191
/7280
Front speakers
Haut-parleurs avant
Rear speakers
Haut-parleurs arrière

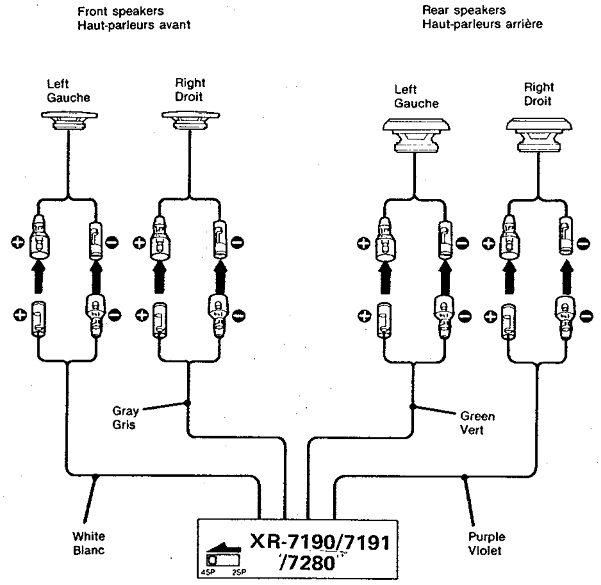
With a power amplifier
Avec un amplificateur de puissance



CD changer
Changeur CD
XR-7190/7191
/7280
Power amplifier
Amplificateur de puissance
Front speakers
Haut-parleurs avant
Rear speakers
Haut-parleurs arrière

Speaker Connection/Connexion des haut-parleurs

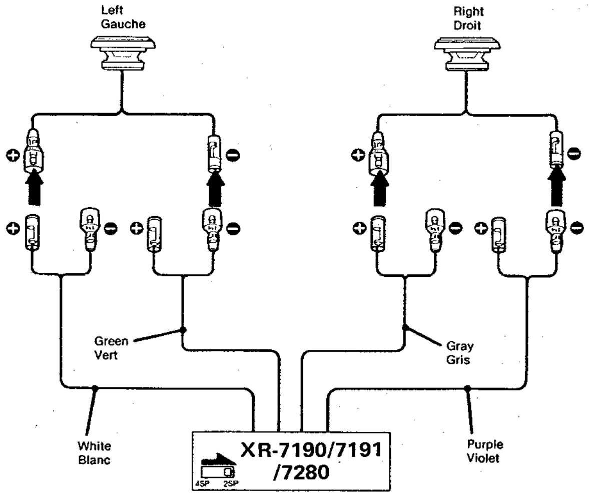
For 4-speaker connection
Connexion de 4 haut-parleurs



Front speakers
Haut-parleurs avant
Rear speakers
Haut-parleurs arrière
Left
Gauche
Right
Droit
Left
Gauche
Right
Droit
Gray
Gris
Green
Vert
White
Blanc
Purple
Violet
XR-7190/7191
/7280
4SP
2SP

Be sure to change the selector to 4 sp.
S'assurer de changer la position du sélecteur sur 4 sp.

For 2-speaker connection
Connexion de 2 haut-parleurs



Left
Gauche
Right
Droit
Green
Vert
Gray
Gris
White
Blanc
Purple
Violet
XR-7190/7191
/7280
4SP
2SP

Be sure to change the selector to 2 sp.
S'assurer de changer la position du sélecteur sur 2 sp.

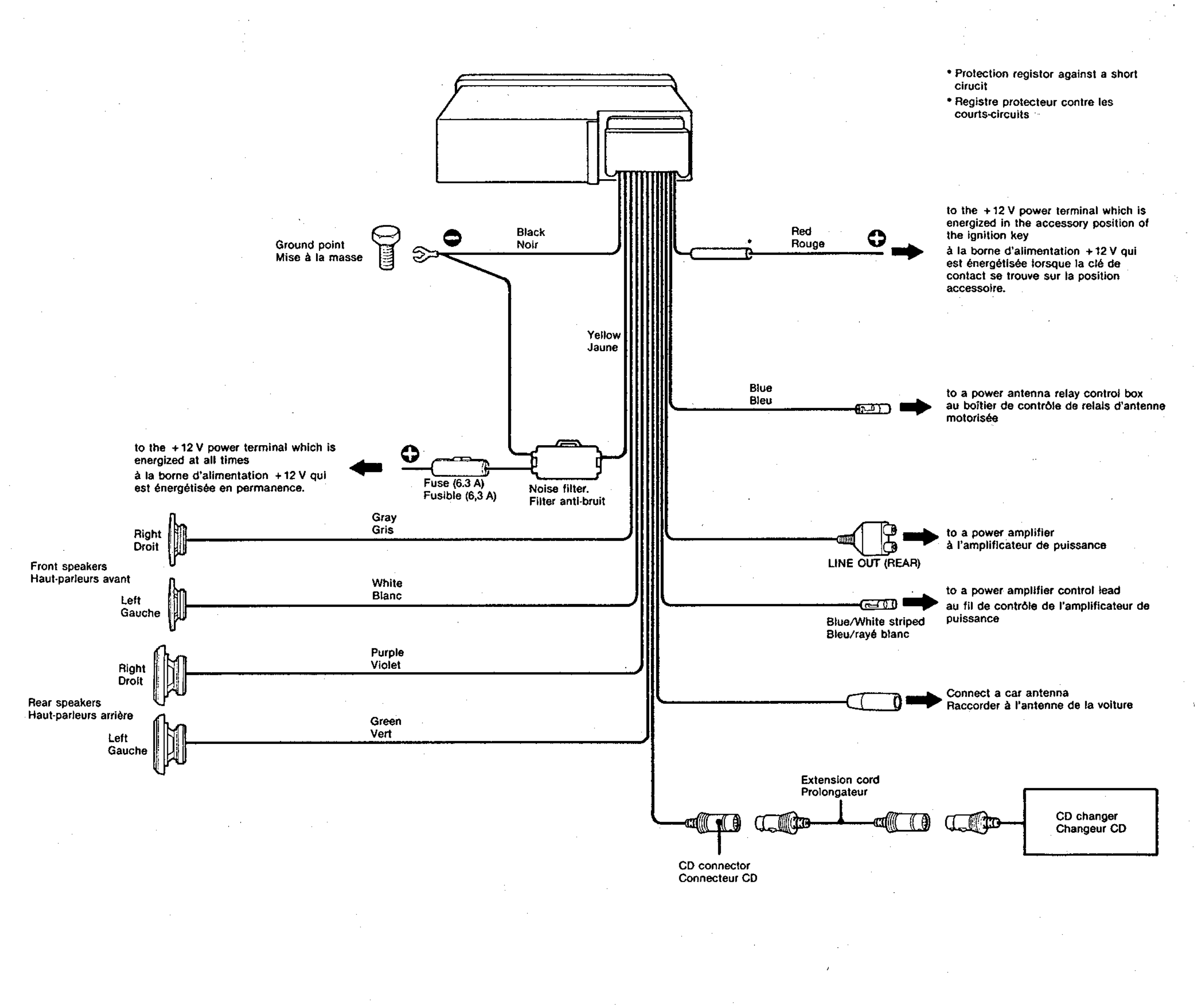
Notes on speaker connection

- Use speakers with an impedance of 3.2 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not attempt to connect the speakers in parallel.

Remarques sur les connexions des haut-parleurs

- Utiliser des haut-parleurs d'une impédance de 3,2 à 8 ohms, et d'une capacité de puissance suffisante; faute de quoi, les haut-parleurs peuvent être endommagés.
- Ne pas raccorder les bornes des haut-parleurs au châssis du véhicule et ne pas raccorder les bornes du haut-parleur droit à celles du haut-parleur gauche.
- Ne pas essayer de raccorder les haut-parleurs en parallèle.

Connection Diagram / Schéma de connexion


Ground point
Mise à la masse
Black
Noir
Red
Rouge
Yellow
Jaune
Blue
Bleu
Fuse (6.3 A)
Fusible (6,3 A)
Noise filter.
Filter anti-bruit
Gray
Gris
Right
Droit
Front speakers
Haut-parleurs avant
White
Blanc
Left
Gauche
Purple
Violet
Right
Droit
Rear speakers
Haut-parleurs arrière
Green
Vert
Left
Gauche
LINE OUT (REAR)
Blue/White striped
Bleu/rayé blanc
Extension cord
Prolongateur
CD changer
Changeur CD
CD connector
Connecteur CD

- * Protection registor against a short cirucit
- * Registre protecteur contre les courts-circuits

to the +12 V power terminal which is energized in the accessory position of the ignition key
à la borne d'alimentation +12 V qui est énergétisée lorsque la clé de contact se trouve sur la position accessoire.

to a power antenna relay control box
au boîtier de contrôle de relais d'antenne motorisée

to the +12 V power terminal which is energized at all times
à la borne d'alimentation +12 V qui est énergétisée en permanence.

to a power amplifier
à l'amplificateur de puissance

to a power amplifier control lead
au fil de contrôle de l'amplificateur de puissance

Connect a car antenna
Raccorder à l'antenne de la voiture

Notes on the control leads

- The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or the ATA* function is activated. A power antenna without relay box cannot be used with this unit. For details about the power antenna, refer to the power antenna instruction manual.
- When the power antenna control lead or the power amplifier control lead is in contact with a metal part of the car, the unit cannot be turned on because the protection circuit is activated.

* Automatic Tuner Activation

After completing the connections and mounting the unit into the bracket, press the reset button of this unit. The reset button is effective only when the unit is mounted in the bracket.

Note on the power select switch

You can change illumination mode with the power select switch located on the bottom of the unit. The switch is factory-set to the ON position. **If your car has no accessory position, set the switch to the OFF position** with a pencil or similar objects. After changing position of the power select switch and mounting the unit into the bracket, be sure to press the reset button. For details about the illumination mode, refer to the operating instructions.

Remarques sur les fils de contrôle

- Le fil de contrôle de l'antenne motorisée (bleu) fournit une alimentation de courant continu positif de 12 volts lorsque le tuner est mis sous tension ou la fonction ANT* est activée. Une antenne motorisée sans boîtier de relais ne peut être utilisée avec cet appareil. Pour plus de détails sur l'antenne motorisée, se reporter à son mode d'emploi.
- Lorsque le fil de contrôle de l'antenne motorisée ou le fil de contrôle de l'amplificateur de puissance est en contact avec une partie métallique de la voiture, l'appareil ne peut être mis sous tension puisque le circuit de protection est alors activé.

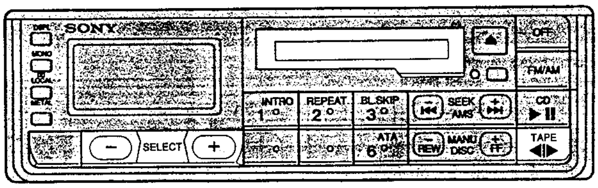
* Automatic Tuner Activation (enclenchement automatique du tuner)

Après avoir terminé les connexions et le montage de l'appareil dans le support, appuyer sur la touche de réinitialisation. Cette touche est opérationnelle uniquement lorsque l'appareil est installé dans le support.

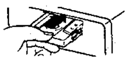
Remarque sur le sélecteur d'alimentation

Il est possible de changer de mode d'illumination en se servant du sélecteur d'alimentation situé sous l'appareil. Le sélecteur est préréglé à l'usine sur la position ON. **Si la voiture n'est pas munie de la position accessoire, régler le sélecteur sur la position OFF** à l'aide d'un crayon ou d'un objet similaire. Si la position de ce sélecteur a été modifiée, ne pas oublier d'appuyer sur la touche de réinitialisation après le montage de l'appareil dans le support. Pour plus de détails sur le mode d'illumination, se reporter au mode d'emploi.

Tape Playback



1



Insert a cassette to start playback.

or

TAPE ◄I►

Press TAPE button when a cassette is already inserted.

2

(−) SELECT (+)

Press to adjust the volume.

Other Operations

To rewind or fast-forward the tape	REW MANU DISC FF (rewind) (fast-forward)
To listen to the other side of the cassette	TAPE ◄I►
To take out the cassette	▲

To stop the tape and listen to the radio	FM/AM
To play back the tape again	TAPE ◄I►
To stop the tape and turn off the unit	OFF
To stop the tape and listen to a disc	CD ►II

Side of the cassette being played back
This unit plays back both sides of the cassette repeatedly. The indicator in the display window shows which side of the cassette is being played back.

Indicator	Side
►	The side facing upward
◁	The side facing downward

Locating the Beginning of a Desired Selection During Playback (AMS function)

During tape playback

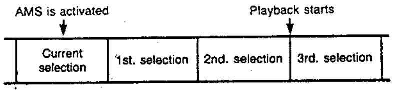
Press ⏮ or ⏭ as many times as the number of selections you want to skip. Up to 9 selections can be skipped.

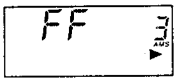
To locate a selection ahead	Press ⏭.
To locate a previous selection	Press ⏮.

The number in the display window shows how many selections will be skipped.

Examples
- When you want to listen to the third selection ahead from the current selection,

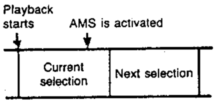
Press ⏭ three times.

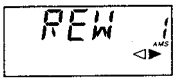




- To locate the beginning of the current selection,

Press ⏮ once.





Listening to the CrO2 (TYPE II) or Metal (TYPE IV) Tapes

Press LOCAL METAL. MTL appears in the display window.
To listen to the normal (TYPE I) tapes, press it again.

Listening to Dolby NR-processed Tapes

Press MONO ᴅᴅ. Press to activate the B-type or C-type Dolby NR system.
Select the same Dolby NR system used for the recorded cassette.
The Dolby NR (Noise Reduction) system reduces tape hiss noise in low-level, high-frequency signals.

Listening to the First Portions of Selections in Order (Intro play)

Press INTRO 1. (during tape playback)

The first ten seconds of each selection will be played back in order from the next selection. Press again to release this function.

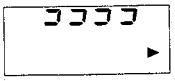
Repeating the Selection Being Played (Repeat play)

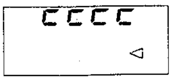
Press REPEAT 2. The unit goes back to the beginning of the selection when the selection ends. Press again to release this function.

Skipping the Long Blank (Blank skip function)

Press BL.SKIP 3. The unit skips the long blank (more than eight seconds) automatically and plays back the next selection. Press again to release this function.

To display the tape running indicator
Press DSPL. The running indicator appears in the display window. To restore the normal indication, press it again.



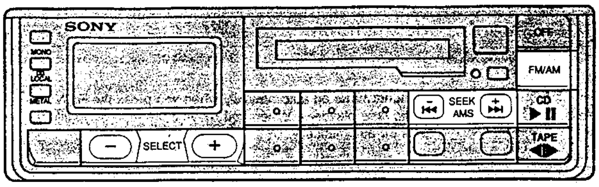


To Turn on the Radio Automatically While Fast-winding the Tape (ATA function)

Press ATA 6. The tuner turns on automatically when you press the REW or FF during tape playback. When you resume the tape playback, the tuner turns off automatically.

To display the frequency indication while the ATA is operating
Press DSPL. The display window shows the frequency which you tuned in last time. In this case, all the tuner operation buttons function in the same way as when you turn on the tuner (except for the FM/AM button).

Automatic Tuning



1 FM/AM

Press to select the desired band, FM1, FM2, FM3 or AM.

The tuner turns on at the same time.

2 SEEK AMS

Press to start scanning.

– ◄◄ For lower frequencies

+ ►►I For higher frequencies

The scanning automatically stops when a station is tuned in.

Repeat this step until the desired station is tuned in.

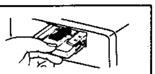
3 – SELECT +

Press to adjust the volume.

FM has three bands (FM1, FM2, FM3). Three bands cover the same frequency range. To change the band, press FM/AM button.

Other Operations

To stop the radio and start tape playback

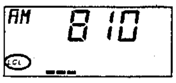
When no cassette is inserted	
When a cassette is already inserted	TAPE ◄I►

To stop the radio and turn off the unit	OFF
To stop the radio and listen to a disc	CD ►II

When there are too many stations and the scanning stops too frequently during automatic tuning

Press LOCAL METAL.

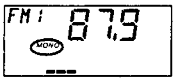
Only the stations with relatively strong signals can be tuned in.



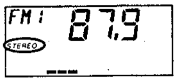
When the FM stereo program is too weak and noisy

Press MONO.

The noise will be reduced. The sound will be monaural instead.

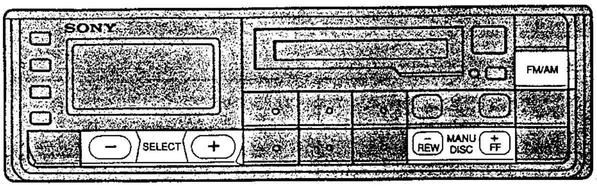


When the FM stereo program of sufficient signal strength is tuned in



The program is automatically received in stereo.

Manual Tuning



1 FM/AM

Press to select the desired band, FM1, FM2, FM3 or AM.

The tuner turns on at the same time.

2 – REW MANU DISC + FF

Press to select the desired station.

– REW For lower frequencies

+ FF For higher frequencies

To change the frequency rapidly, keep the button pressed.

3 – SELECT +

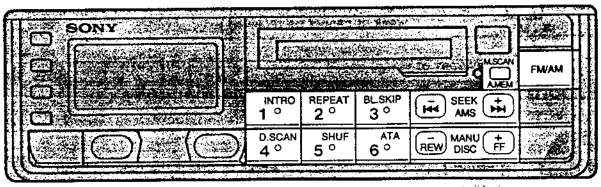
Press to adjust the volume.

Warning
While driving, keep your eyes on the road and use the automatic tuning or the memory preset tuning!

Memory Preset Tuning

You can memorize a total of 24 stations (6 stations for each band), one on each preset number.

Memorizing the Stations Automatically (Automatic Memory Function)



1 FM/AM

Press to select the desired band, FM1, FM2, FM3 or AM.

The tuner turns on at same time.

2 M.SCAN A.MEM

Press for more than two seconds.

The unit starts scanning the selected band and memorizes the tuned stations on the preset number button 1 through 6 automatically.

In what way are stations scanned and memorized?
The unit scans the selected band twice. The scanning starts from the displayed frequency. During first cycle, the unit scans stations with considerably strong signals. During the next cycle, the unit scans all stations that can be received, including weak ones. And for memorizing, if any preset number is indicated in the display window, memorizing starts from this preset number. When you choose FM2 and the preset number 3 is displayed in the window, for example, memorizing starts from the preset number 3 on FM2, and stops at the preset number 6 on FM 3.

Memory Preset Tuning

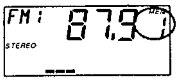
Surveying What is Being Broadcast on the Preset Stations

Press M.SCAN / A.MEM lightly.

Each memorized station will be scanned for five seconds in order. (When the broadcast of the memorized station is too weak, it cannot be received.)

Memorizing Only the Desired Stations Manually

Example: To memorize on the preset number 1

1	FM/AM	**Press to select the desired band.**
2	– SEEK + ⏮ AMS ⏭ or – MANU + REW DISC FF	**Press to tune in the desired station.**
3	INTRO 1 ○ 	**Press for more than two seconds.** The number of the pressed preset number button will be displayed. MEM indicator appears to show that the station has been memorized. (MEM indicator will disappear in a few seconds.)

Repeat these steps for each preset button.

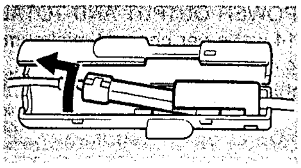
To Receive the Preset Station

1	FM/AM	**Press to select the desired band.**
2	INTRO 1 ○ ~ ATA 6 ○	**Press lightly to receive the desired station.**

Important
Every preset number button has only one memory for a band. The previously memorized station will be erased when you enter a new station of the same band on the same preset number button.

Maintenance

Fuse Replacement

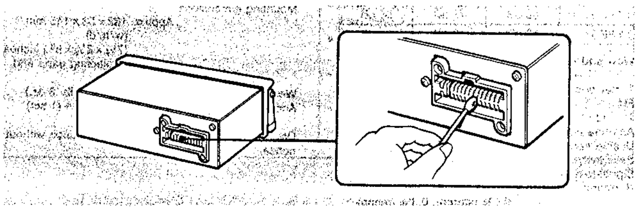


If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In this case, consult your nearest Sony dealer.

Warning
Use the specified ampere fuse.
Use of a higher amperage fuse may cause serious damage.

Cleaning the Connector

To keep the best possible sound quality, clean the metallic part of the connector at the rear of the unit periodically using a commercially available head cleaning fluid or rubbing alcohol and a cotton swab.



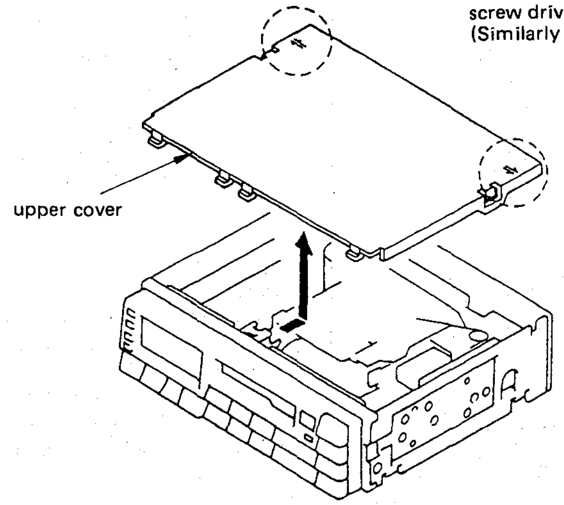
Cleaning the Head and the Tape Path

Prolonged use may contaminate the tape head and the tape path. Contamination causes sound drop-outs in playback.
Clean the tape head and the tape path every two weeks to enjoy optimum hi-fi stereo sound. Use a commercially available cleaning cassette.

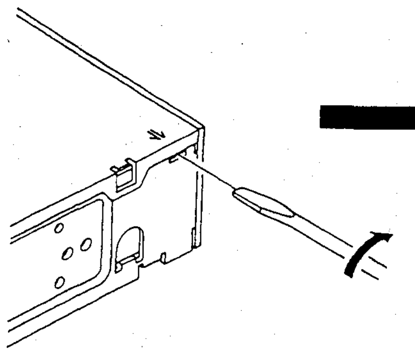
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

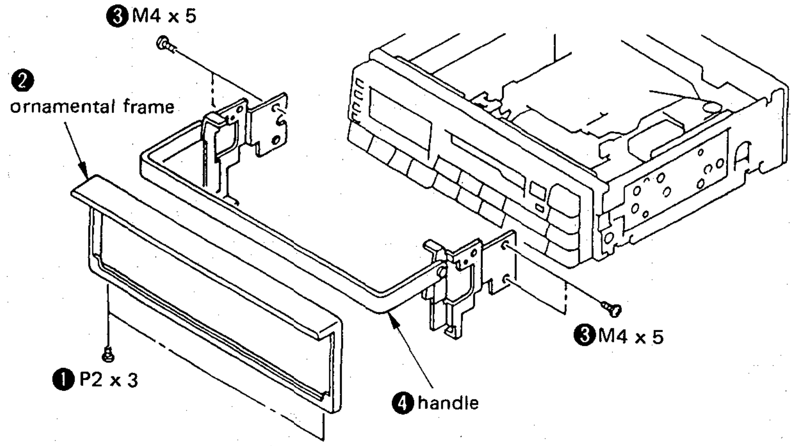
UPPER COVER


upper cover

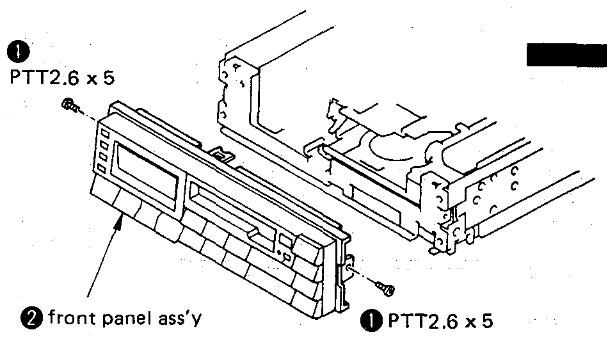
Remove the upper cover by inserting such as screw drivers in two portions as following figure. (Similarly the lower cover.)



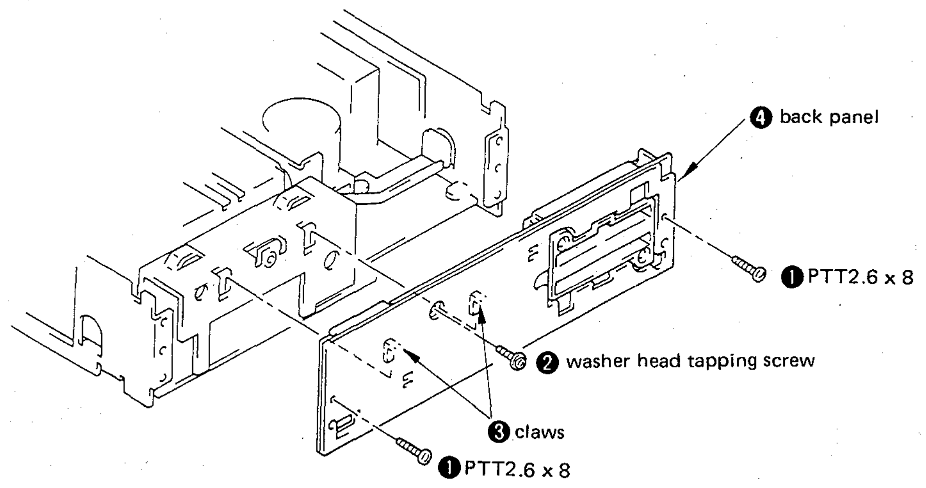
HANDLE


❸M4 x 5
❷ ornamental frame
❶P2 x 3
❹handle
❸M4 x 5

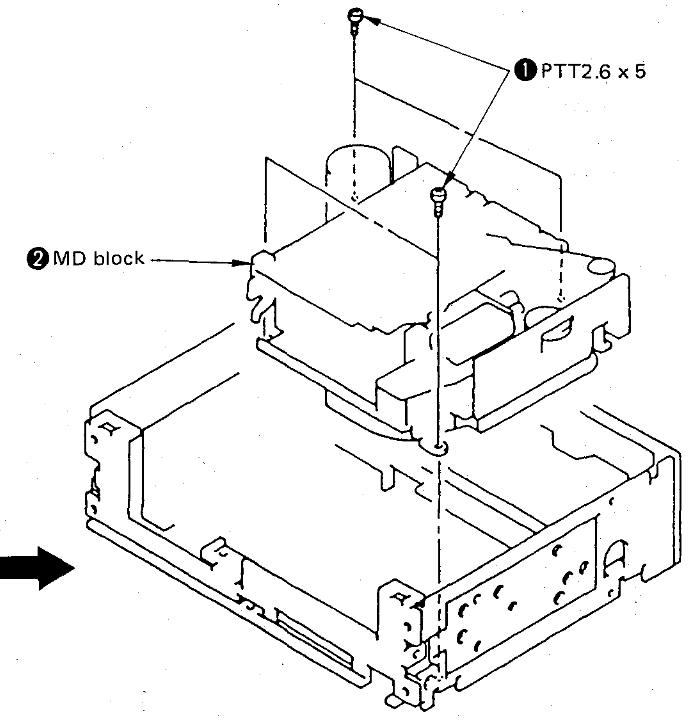
FRONT PANEL ASSEMBLY


❶ PTT2.6 x 5
❷ front panel ass'y
❶ PTT2.6 x 5

BACK PANEL


❹ back panel
❶ PTT2.6 x 8
❷ washer head tapping screw
❸ claws
❶ PTT2.6 x 8

MD BLOCK


❶ PTT2.6 x 5
❷MD block

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENT

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment:

PB head	Pinch roller
Idler	Rubber belt
Capstan	

2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4 V).

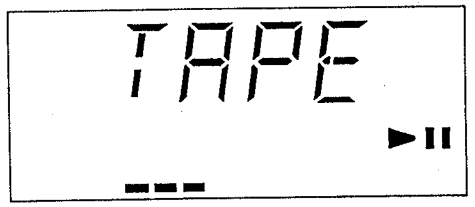
Torque Measurement

Before measuring torque, set to the test mode 2.

Setting Procedure:

1. While pressing "MUTE" (S724) and "2" (S712) buttons simultaneously, press "RESET" (S740) button.
2. Test mode releasing procedure after measuring is pressing "OFF" (S734) or "RESET" (S740) buttons.

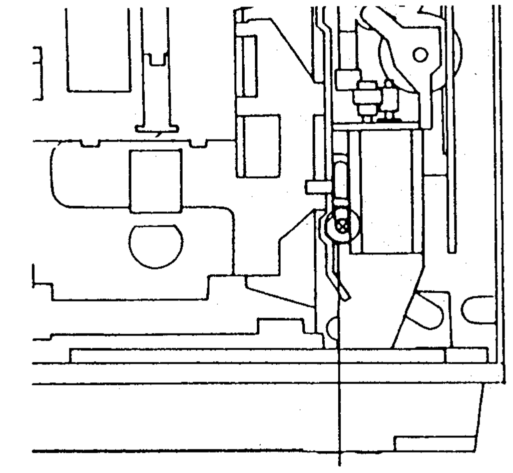
LCD display pattern duning playback on the test mode 2.



Measure the torque at a supply voltage of 14.4 V DC.

	Torque meter	Meter reading
FWD	CQ-102C	25 to 55 g·cm (0.35 to 0.77 oz·inch)
FF, REW	CQ-210B	55 to 150 g·cm (0.77 to 2.1 oz·inch)
Back tension	CQ-102C	1.5 to 4 g·cm or less (0.02 to 0.05 oz·inch or less)

Adjustment Location:

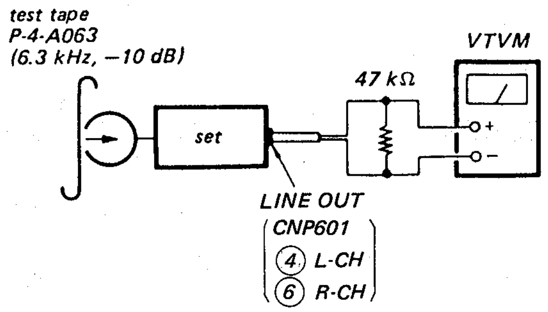

adjustment screw

3-2. ELECTRICAL ADJUSTMENTS DECK SECTION

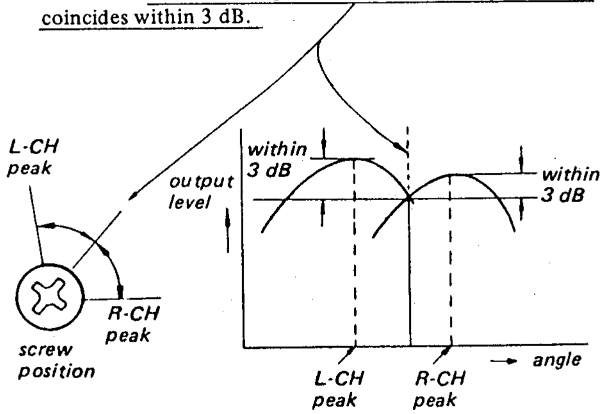
PB Head Vertical Adjustment

Proceudre:

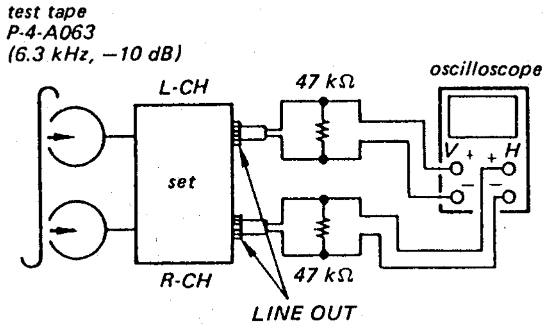
1. Put the set into the FWD PB mode.


test tape
P-4-A063
(6.3 kHz, −10 dB)
VTVM
47 kΩ
set
+
−
LINE OUT
CNP601
④ L-CH
⑥ R-CH

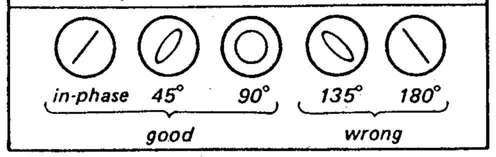
2. Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 3 dB.



3. Check the phase in the PB mode.


test tape
P-4-A063
(6.3 kHz, −10 dB)
L-CH
47 kΩ
oscilloscope
set
V
H
R-CH
47 kΩ
LINE OUT

Lissajous's waveform on oscilloscope

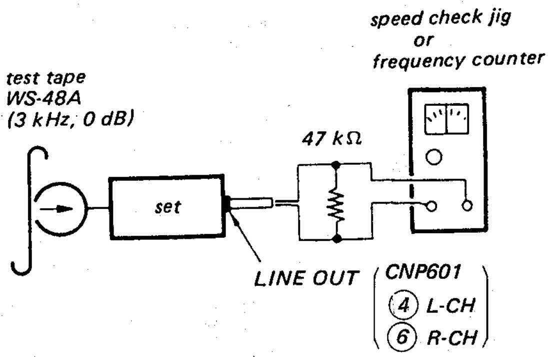

in-phase
45°
90°
135°
180°
good
wrong

4. Repeat the above adjustment for the PB REV mode.

Capstan Motor Tape Speed Adjustment

Procedure:

1. Put the set into the FWD PB mode.

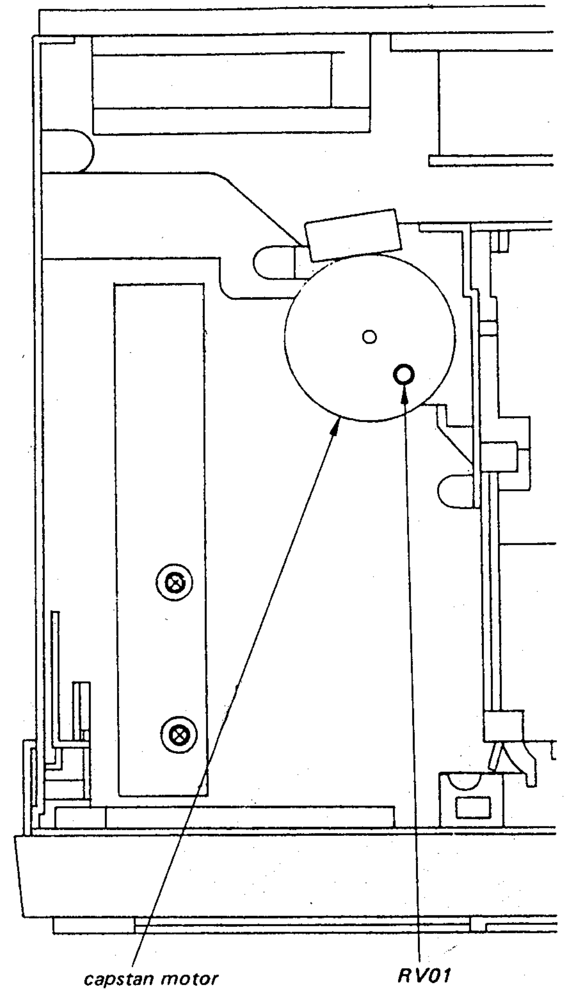

speed check jig
or
frequency counter
test tape
WS-48A
(3 kHz, 0 dB)
47 kΩ
set
LINE OUT
CNP601
④ L-CH
⑥ R-CH

Specification: Constant speed

Speed check jig	Frequency counter
−1.5 to +2.5%	2,955 to 3,075 Hz

Adjust so that the frequency difference between the FWD and REV modes is within 1.5% (45 dB).

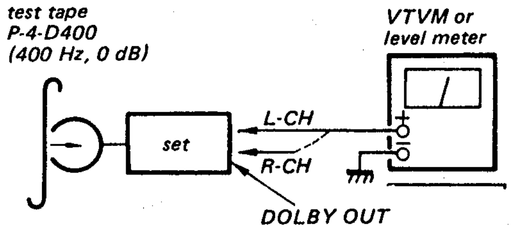
Adjustment Location: RV01


capstan motor
RV01

DOLBY NR Level Adjustment

Setting:

DOLBY NR switch: OFF
METAL switch: OFF

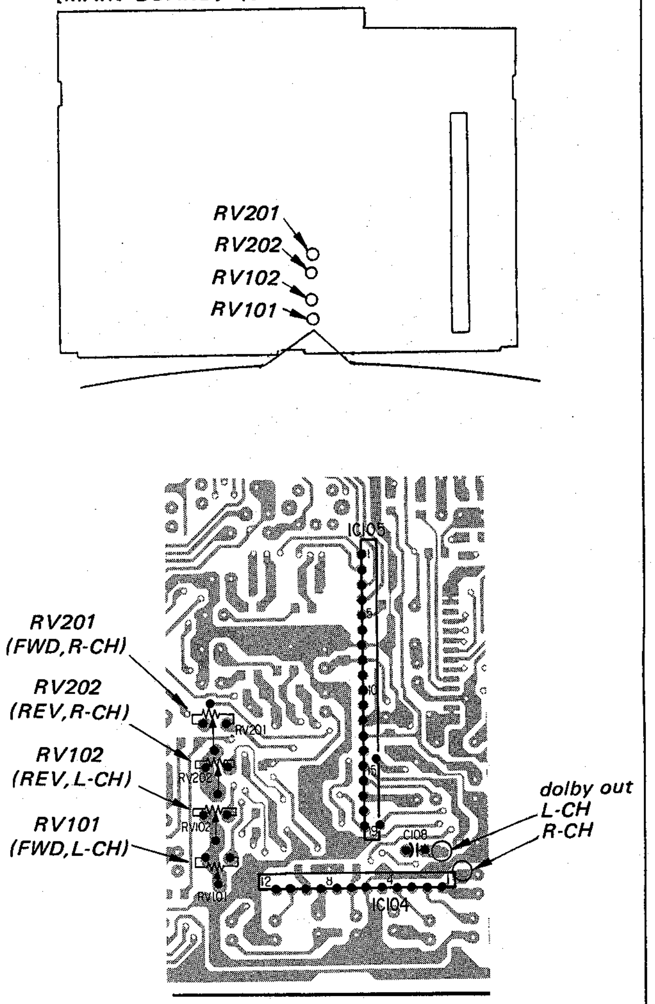

test tape
P-4-D400
(400 Hz, 0 dB)
VTVM or
level meter
set
L-CH
R-CH
DOLBY OUT

Procedure:

1. Put the set into the FWD PB mode.
2. Adjust RV101 (L-CH) and RV201 (R-CH) so that VTVM reading is − 4.7 ± 0.3 dB.
3. Put the set into the REV PB mode.
4. Adjust RV102 (L-CH) and RV202 (R-CH) so that VTVM reading is − 4.7 ± 0.3 dB. (− 4.7 ± 0.3 dB: approx. 0.47 to 0.44 V)

Adjustment Locationn : MAIN board

[MAIN BOARD] (Conductor Side)


RV201
RV202
RV102
RV101
IC105
RV201 (FWD,R-CH)
RV202 (REV,R-CH)
RV102 (REV,L-CH)
RV101 (FWD,L-CH)
IC104
dolby out
L-CH
R-CH

REFERENCE

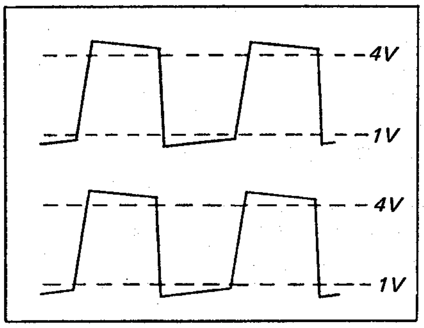
Tape End Detection Adjustment

Tape End Detection adjustment
Before adjusting,set to the test mode 2.
(Refer to Torque Measurement.)

Test tape: *C-60 (or any)*
Setting: *FF or REW*

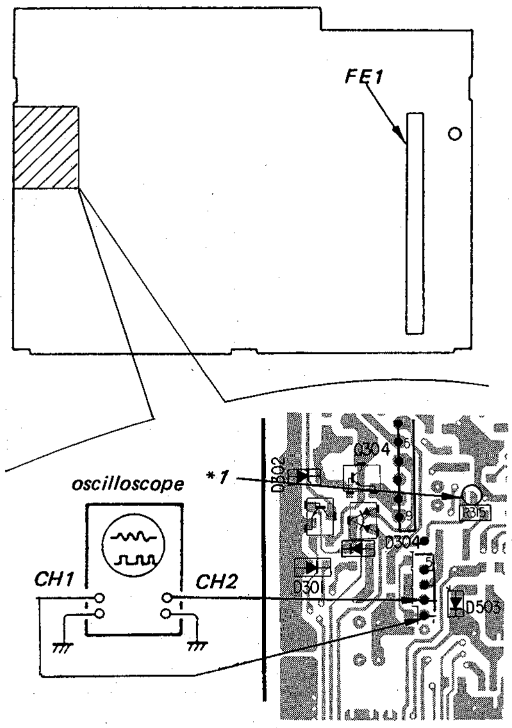
Procedures:

1. Confirm that the both voltages of CH1 and CH2 are more than 4 V at their higher level and less than 1 V at their lower level.
2. If the specification above is not satisfied make a solder bridge at the portion of the pattern marked with *1 on MAIN BOARD, and confirm that the specification of Procedure 1 is satisfied.



Adustment Location : MAIN board

[MAIN BOARD] (Conductor Side)



TUNER SECTION

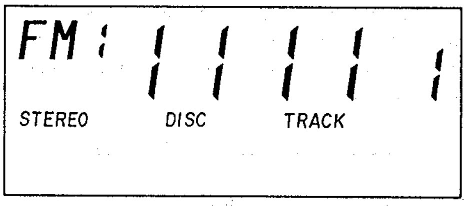
Cautions during repair
When the front end is defective, replace it by a new one because its internal block is difficult to repair.

Before AM Auto Scan/Stop Level Adustment, set to the test mode 1.

Setting Procedure:

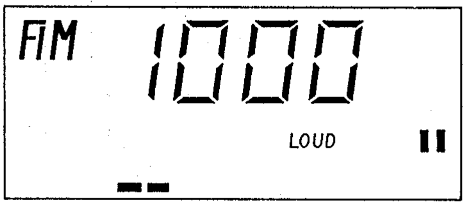
1. While pressing “MUTE” (S724) and “1” (S702) buttons simultaneously,press “RESET” (S740) button.
2. When the test mode is set and “LOUD” is on in AM mode,measurement is available.
   It becomes the standard AM 28 ± 4 dB.
   “II” (PAUSE mark) is displayed on the right foot of the display window.
3. Test mode releasing procedure after measuring is pressing “OFF” (S734) or “RESET” (S740) buttons.
   * FM Auto Scan/Stop Level Adjustment is available on either normal operation or the test mode operation.

LCD display pattern on setting the test mode 1 (step 1).



* First display pattern in 12 steps.

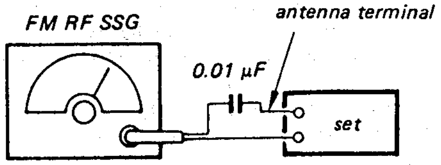
LCD display pattern during AM receiving on the test mode 1.



FM Auto Scan/Stop Level Adjustment

Setting:

Band switch: : FM
MONO switch : ON
Frequency : 98.0 MHz: XR-7190/7191
97.9 MHz: XR-7280


FM RF SSG
antenna terminal
0.01 μF
set

Carrier frequency: 98.0 MHz: XR-7190/7191
97.9 MHz: XR-7280
Output level: 25dB(18μV)
Mode: mono, unmodulated

Procedure:

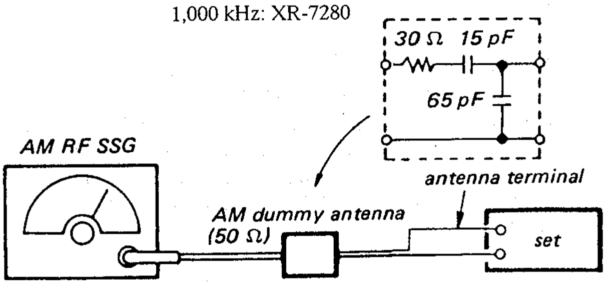
1. Tune in 98.0 MHz: XR-7190/7191 or 97.9 MHz: XR-7280.
2. Adjust RV2 so that the VOM reading changes from low to high (5 V reference voltage).
3. When the FM RF SSG's output level is 25 ± 4 dB, check that the auto scan is stopped.

AM Auto Scan/Stop Level Adjustment

Note : This adjustment should be made after FM auto scan stop level adjustment is completed.

Setting:

Band switch: AM : XR-7190/7191
Frequency: 999 kHz
1,000 kHz: XR-7280

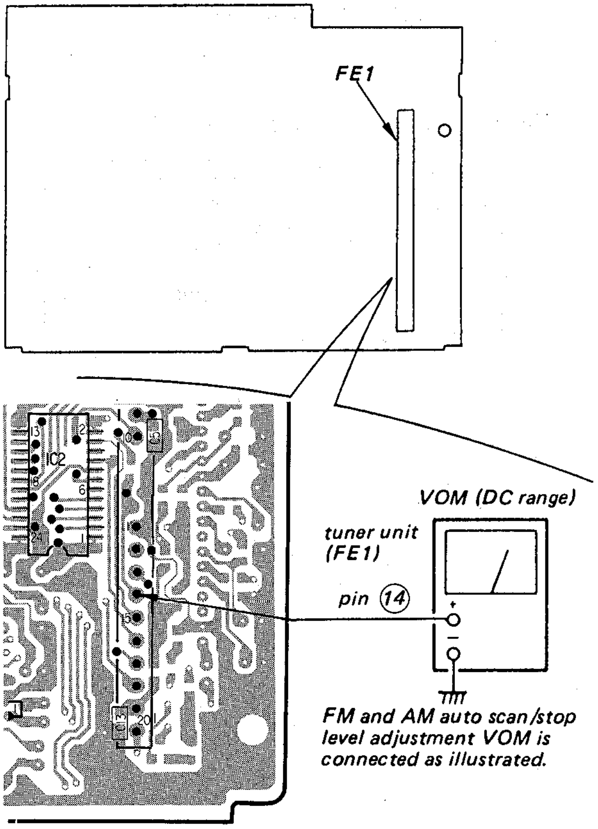

30 Ω
15 pF
65 pF
AM RF SSG
antenna terminal
AM dummy antenna
(50 Ω)
set

999kHz: XR-7190/7191
1000kHz: XR-7280
28dB(25V)
no modulation

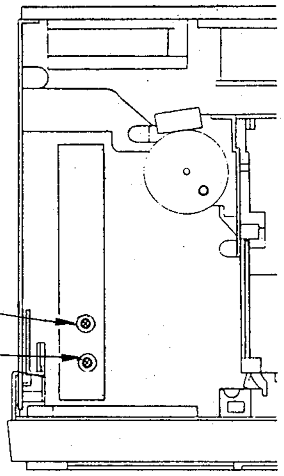
Procedure:

1. Tune in 999 kHz: XR-7190/7191 or 1,000 kHz: XR-7280.
2. Adjust RV3 so that the VOM reading changes from low to high (5.6 V reference voltage).
3. When the AM RF SG's output level is 28 ± 4 dB, check that the auto scan is stopped.

[MAIN BOARD] (Conductor Side)


FE1
IC2
VOM (DC range)
tuner unit
(FE1)
pin ⑭
+
−

FM and AM auto scan/stop level adjustment VOM is connected as illustrated.

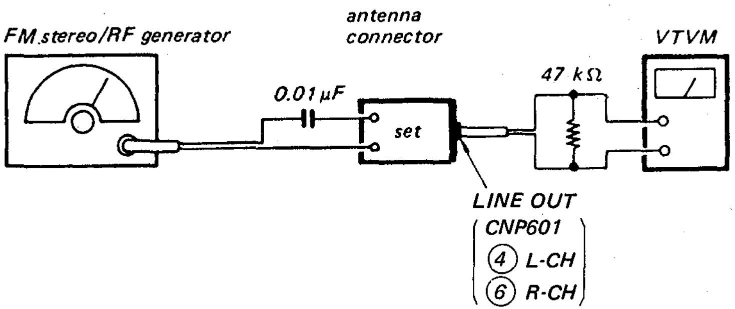


RV03 AM Auto Scan/Stop Level Adjustment
RV02 FM Auto Scan/Stop Level Adjustment

FM Stereo Separation Adjustment

Setting:

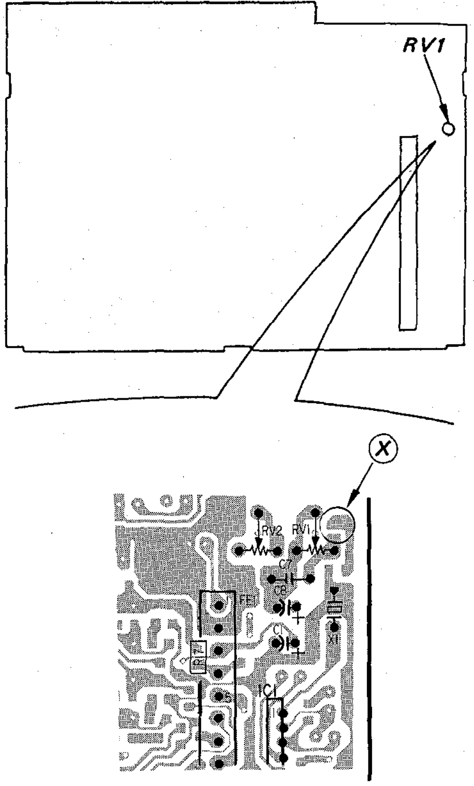
Band switch: FM
Frequency: 97.9 MHz: XR-7280
98.0 MHz: XR-7190/7191


FM stereo/RF generator
antenna connector
0.01 μF
set
47 kΩ
VTVM
LINE OUT
CNP601
④ L-CH
⑥ R-CH

Carrier frequency: 97.9 MHz: XR-7280
98.0 MHz: XR-7190/7191
Output level: 70 dB (3.2mV)
Modulation: main;1 kHz 33.75 kHz deviation
sub; 1 kHz, 33.75 kHz deviation
19 kHz pilot; 7.5 kHz deviation

Adjustment Location:

[MAIN BOARD] (Conductor Side)


RV1
Ⓧ
RV2
RV1
C7
C8
FE1
C
X1
R17
IC1

Procedure:

1. Adjust RV1 for a best stereo separation at a LINE OUT level of approximately 0 dB.
   More than 35 dB is good.

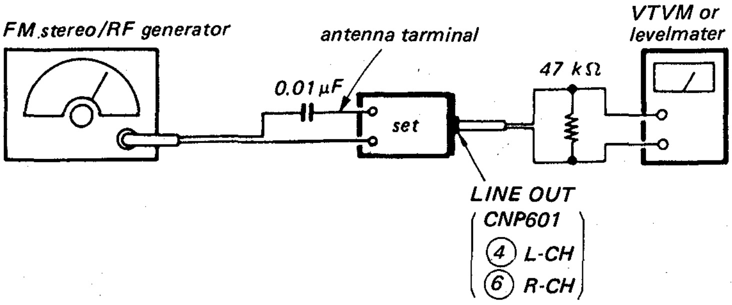
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV1 for minimum reading.

   L-CH Stereo separation: Ⓐ – Ⓑ
   R-CH Stereo separation: Ⓒ – Ⓓ
   The separations of both channels shoul be equal.
2. If the result is not enough, make a solder bridge at Ⓧ position and step back to proceduer 1.

FM Carrier Leakage

Seeting:

Band switch: FM
Frequency: 97.9 MHz: XR-7280
98.0MHz: XR-7190/7191


FM stereo/RF generator
antenna tarminal
VTVM or levelmater
0.01 μF
set
47 kΩ
LINE OUT
CNP601
④ L-CH
⑥ R-CH

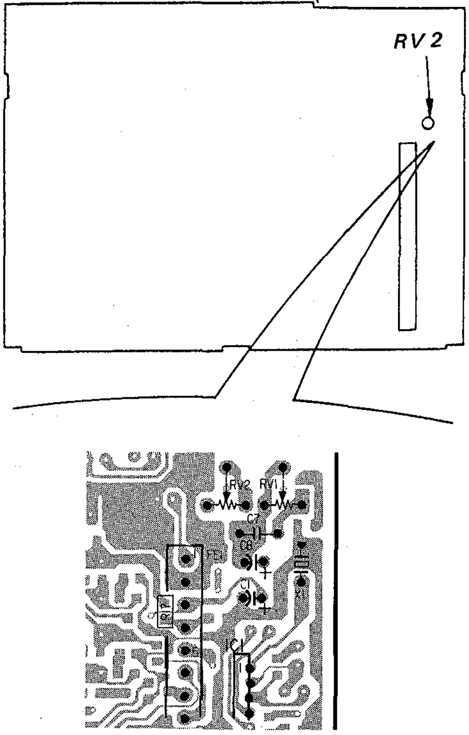
Carrier frequency: *97.9 MHz: XR-7280*
98 MHz; XR-7190/7191
Output level: *70 dB (3.2mV)*
Modulation: *main; 1 kHz 33.75 kHz deviation*
sub; 1 kHz, 33.75 kHz deviation
19 kHz pilot; 7.5 kHz deviation

Procedure:

Adjust with RV2 so that the carrier leakage becomes to the best condition.

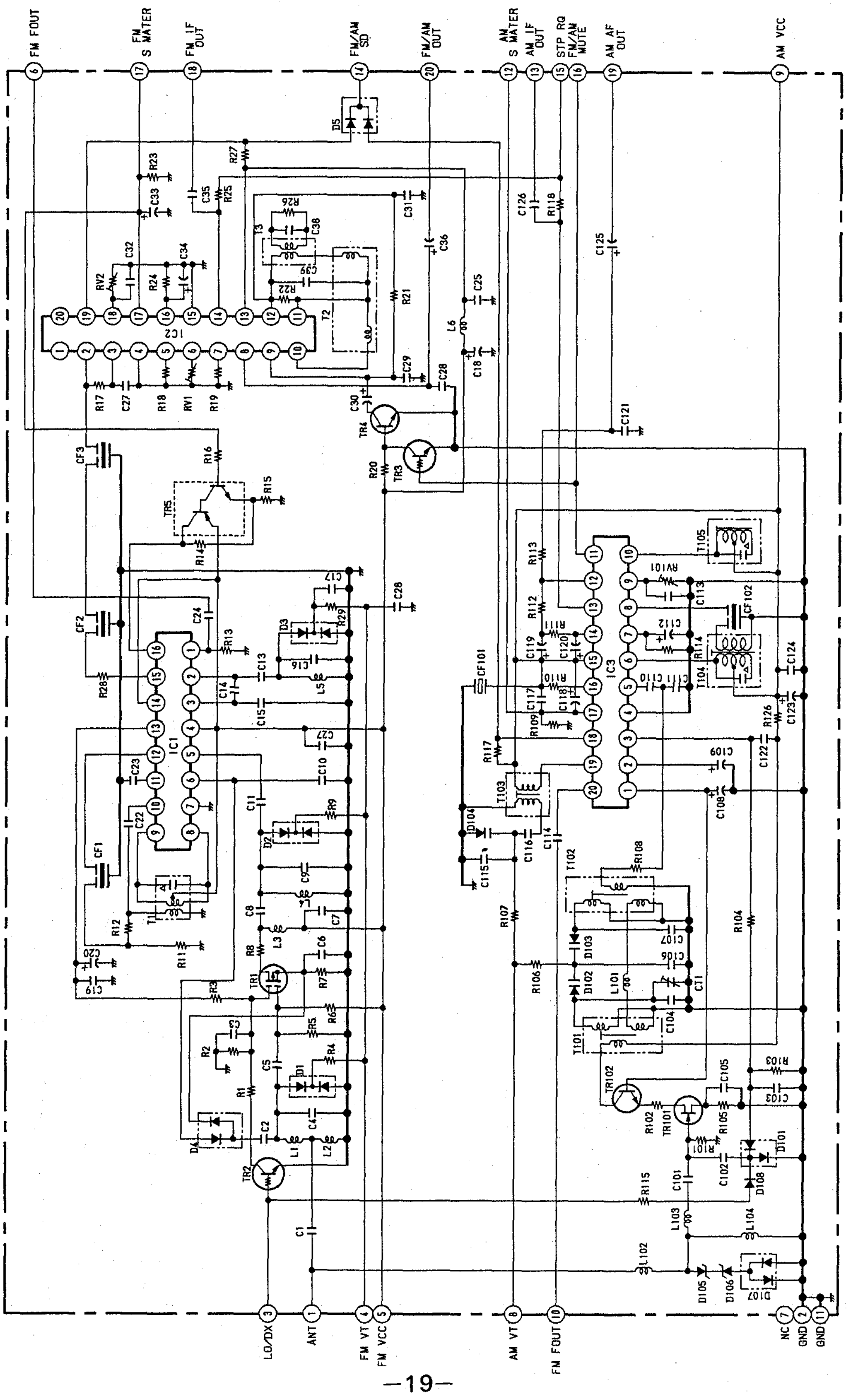
Adjustment Location:

[MAIN BOARD] (Conductor Side)

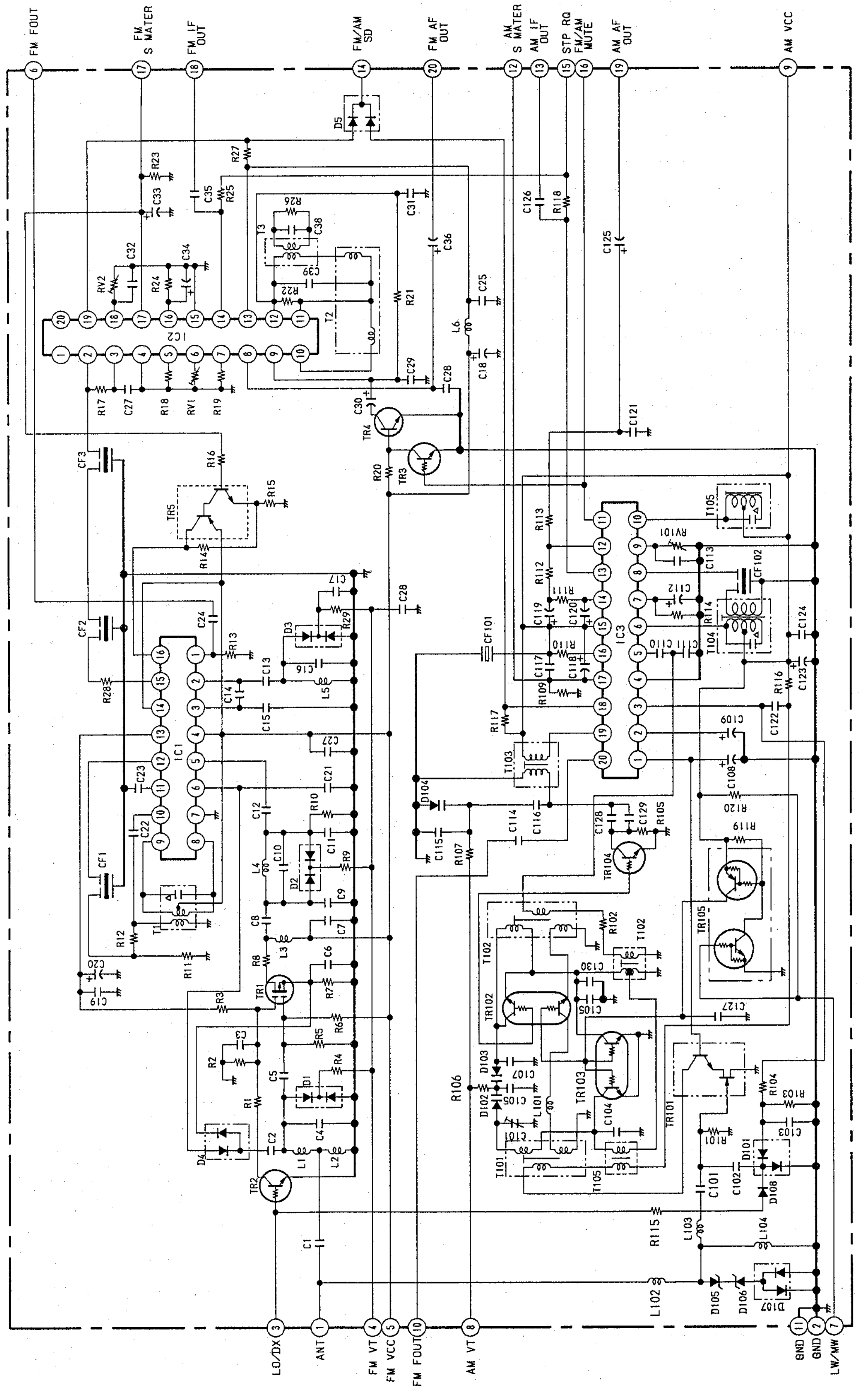

RV2
RV2
RV1
C7
C8
FE1
C1
X1
R17
IC1
1
5

SECTION 4
DIAGRAMS

4-1. XR-7190/7280 TUNER UNIT SCHEMATIC DIAGRAM


FM FOUT
FM S MATER
FM IF OUT
FM/AM SD
FM/AM OUT
AM S MATER
AM IF OUT
STP RQ
FM/AM MUTE
AM AF OUT
AM VCC
LO/DX
ANT
FM VT
FM VCC
AM VT
FM FOUT
NC
GND
GND
IC1
IC2
IC3
TR1
TR2
TR3
TR4
TR5
TR101
TR102
D1
D2
D3
D4
D5
D101
D102
D103
D104
D105
D106
D107
D108
T1
T2
T3
T101
T102
T103
T104
T105
CF1
CF2
CF3
CF101
CF102
RV1
RV2
RV101
CT1
L1
L2
L3
L5
L6
L101
L102
L103
L104

4-2. XR-7191 TUNER UNIT SCHEMATIC DIAGRAM


⑥ FM FOUT
⑰ FM S MATER
⑱ FM IF OUT
⑭ FM/AM SD
⑳ FM AF OUT
⑫ AM S MATER
⑬ AM IF OUT
⑮ STP RQ
⑯ FM/AM MUTE
⑲ AM AF OUT
⑨ AM VCC
③ LO/DX
① ANT
④ FM VT
⑤ FM VCC
⑩ FM FOUT
⑧ AM VT
⑪ GND
② GND
⑦ LW/MW
IC1
IC2
IC3
TR1
TR2
TR3
TR4
TR5
TR101
TR102
TR103
TR104
TR105
D1
D2
D3
D4
D5
D101
D102
D103
D104
D105
D106
D107
D108
CF1
CF2
CF3
CF101
CF102
T1
T2
T3
T101
T102
T103
T104
T105
RV1
RV2
RV101

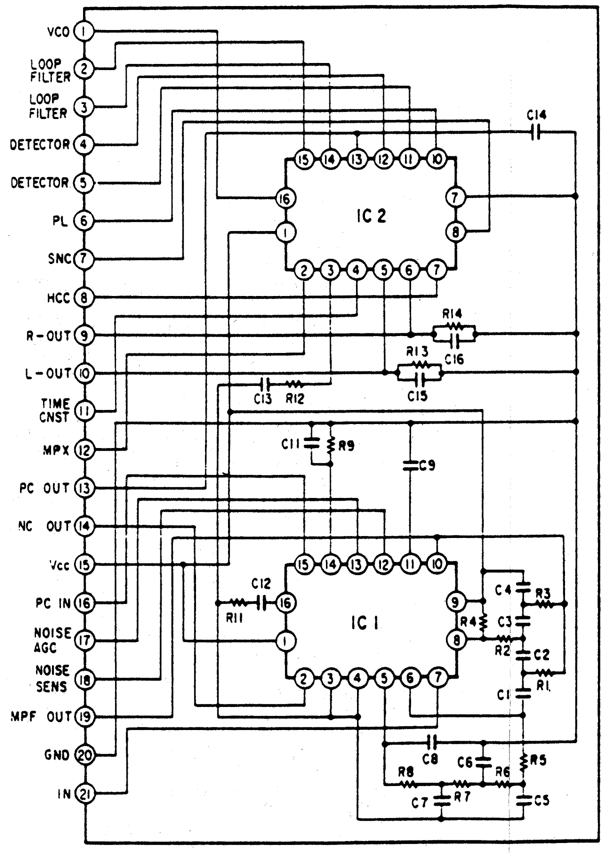
4-3. IC501 (μPD75516G) FUNCTIONAL DESCRIPTION

IC 501 (μPD 75516G) DESCRIPTION

Pin No.	Name	I／O	Description
1	A0	I	Destination setting input.
2	AVREF	I	A/D converter reference voltage input.
3	VDD	—	Positive power input.
4	VDD	—	
5	LM+	O	Forward rotation motor control.
6	LM-	O	Reverse rotation motor control.
7	DPL	O	Direction plunger.
8	DPM	O	Capstan motor control.
9	POS3	I	Tape mechanical deck position switch.
10	POS2	I	
11	POS1	I	
12	POS0	I	
13	MUTE	O	Muting control.
14	COLOR	O	Color illumination switching control.
15	VOLCE	O	Electronic volume enable signal.
16	LCDCE	O	LCD driver enable signal.
17	DATA IN	I	Information input from PLL-IC.
18	DATA OUT	O	Serial data output.
19	CLK OUT	O	Serial transmission clock.
20	PLLCE	O	PLL-IC enable signal.
21	KI3	I	Key information input.
22	KI2	I	
23	KI1	I	
24	KI0	I	
25	KO7	O	Key-return signal source.
26	KO6	O	
27	KO5	O	
28	KO4	O	
29	KO3	O	
30	KO2	O	
31	KO1	O	
32	KO0	O	
33	GND	—	Ground.
34	SIG2	O	Audio-signal switching signal.
35	SIG1	O	
36	AUX-ON	O	AUX signal ON.
37	PPA MUTE	O	PW-AMP mute.
38	METAL	I／O	Metal select.
39	DOLBY	O	Dolby ON/OFF select.
40	DOLBY-C	O	Dolby B/C select.(H: B, L: C)
41	STEREO	I／O	Auto stereo/forced monochrome select.
42	PTUNER	O	Tuner power-antenna output.
43	ILL-ON	O	Illumination output.
44	POWER	O	System power output.
45	BEEP	O	Buzzer output signal (2KHz/1KHz).
46	DK	I	DK signal input.
47	SK	I	SK signal input.
48	BK	I	BK signal input.
49	REMCOM	I	Remote control input.
50	CD-DATA-IN	I	Auto changer information input.
51	—	—	—
52	CD-CLK-IN	I	CD data input clock.
53	BU-CHECK	I	Back-up check.
54	—	—	—
55	—	—	32.7 kHz.
56	—	—	Subsystem clock.
57	—	—	—
58	—	—	4.19 MHz.
59	—	—	Main system clock.
60	RESET	I	Reset input.
61	CD-DATA	O	CD data transmission data line.
62	CD-CLK	O	CD data transmission clock line.
63	DSPSEL	O	Display-select.
64	OUT-RUN	O	AUX-STOP signal.
65	CD-MUTE	I	CD mute request input.
66	CD-CHECK	I	CD loaded/not loaded check.
67	AUX-MUTE	I	AUX mute request input.
68	REM-IN	I	AUX operation request input.
69	HANDLE	I	Handle switch input.
70	—	—	—
71	N/R	I	Tape-running direction input.(L: normal, R: reverse)
72	AMS/IN	I	Tape audio signal input.
73	—	—	—
74	ACC	I	Accessory input.
75	LINE-IN	I	Equalizer remote input.
76	REEL2	I	Feed reel input.
77	REEL1	I	Take-up reel input.
78	TEST	I	Test mode switch.
79	A2	I	Regions setting input.
80	A1	I	

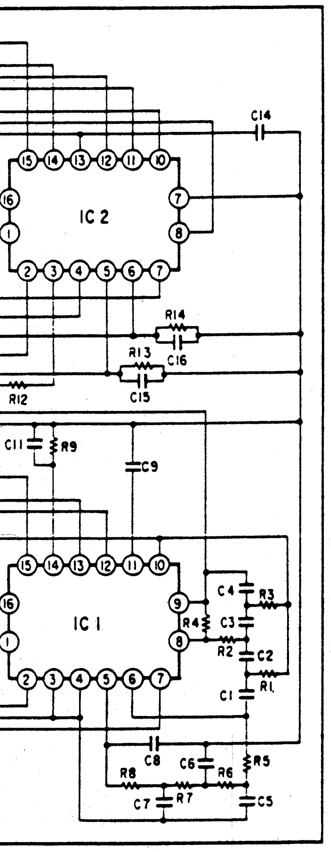
- **IC Block Diagrams**

IC1 STK-3400

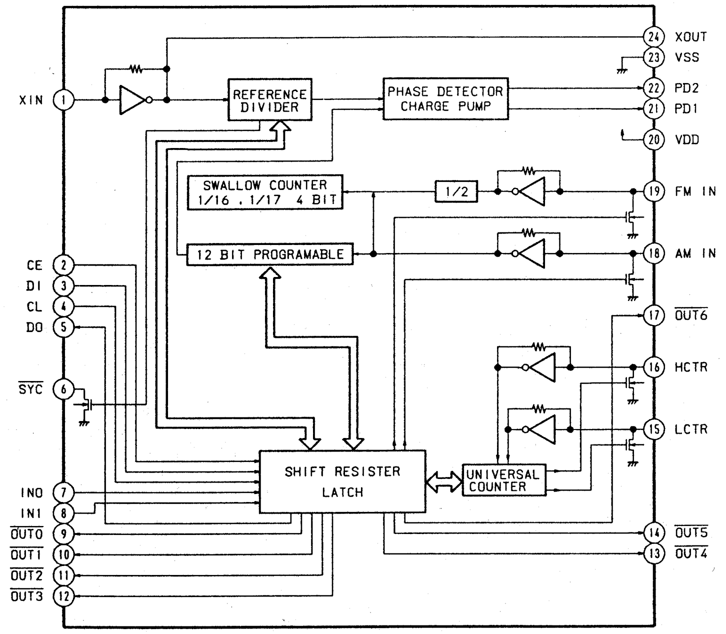


I/O	Description
I	Accessory input.
I	Equalizer remote input.
I	Feed reel input.
I	Take-up reel input.
I	Test mode switch.
I	Regions setting input.
I	

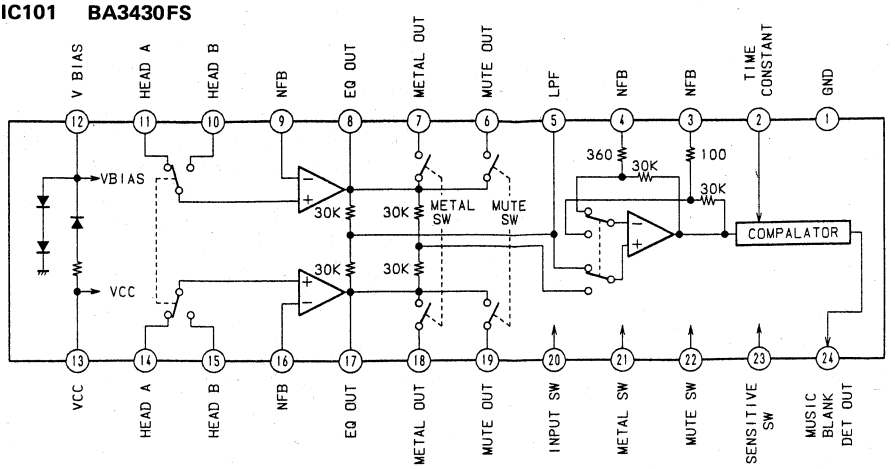
ams


IC 2
IC 1
C14
R14
R13
C16
R12
C15
C11
R9
C9
C4
R3
R4
C3
R2
C2
C1
R1
C8
C6
R6
R5
R8
R7
C7
C5

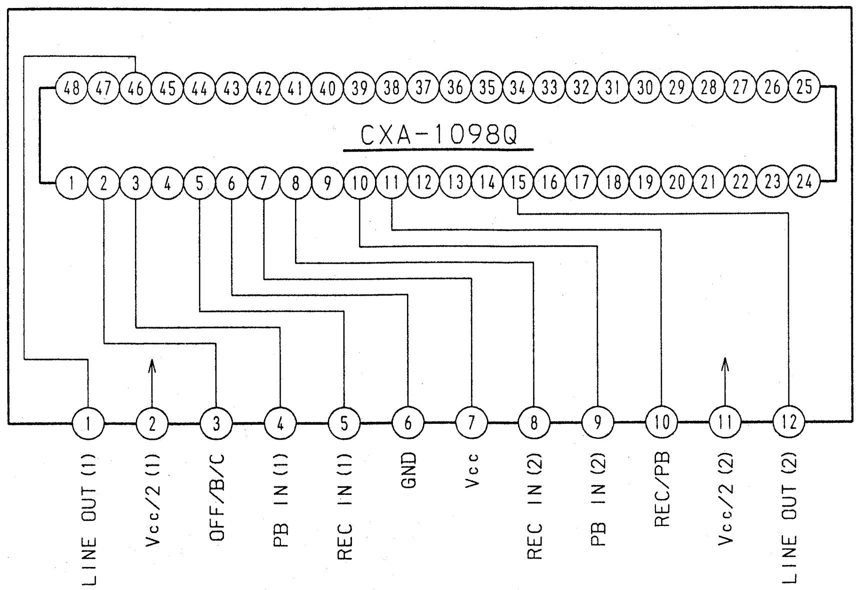
IC2 LC7218M


XIN
CE
DI
CL
DO
SYC
IN0
IN1
OUT0
OUT1
OUT2
OUT3
XOUT
VSS
PD2
PD1
VDD
FM IN
AM IN
OUT6
HCTR
LCTR
OUT5
OUT4
REFERENCE DIVIDER
PHASE DETECTOR CHARGE PUMP
SWALLOW COUNTER 1/16 . 1/17 4 BIT
1/2
12 BIT PROGRAMABLE
SHIFT RESISTER LATCH
UNIVERSAL COUNTER

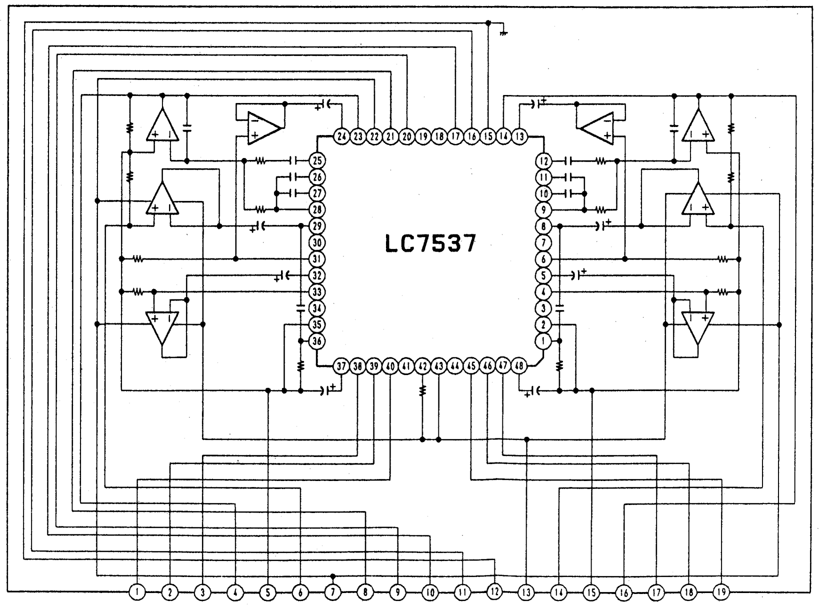
IC101 BA3430FS


V BIAS
HEAD A
HEAD B
NFB
EQ OUT
METAL OUT
MUTE OUT
LPF
NFB
NFB
TIME CONSTANT
GND
VBIAS
VCC
30K
METAL SW
MUTE SW
360
100
COMPALATOR
VCC
HEAD A
HEAD B
NFB
EQ OUT
METAL OUT
MUTE OUT
INPUT SW
METAL SW
MUTE SW
SENSITIVE SW
MUSIC BLANK DET OUT

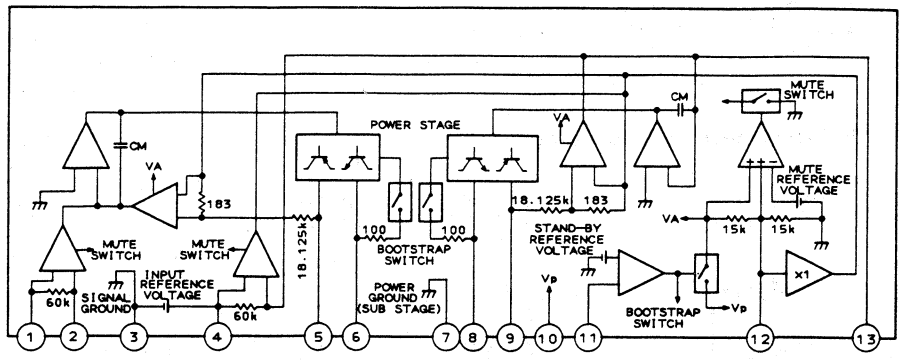
IC104 DOLBY B/C MODULE


CXA-1098Q
LINE OUT (1)
Vcc/2 (1)
OFF/B/C
PB IN (1)
REC IN (1)
GND
Vcc
REC IN (2)
PB IN (2)
REC/PB
Vcc/2 (2)
LINE OUT (2)

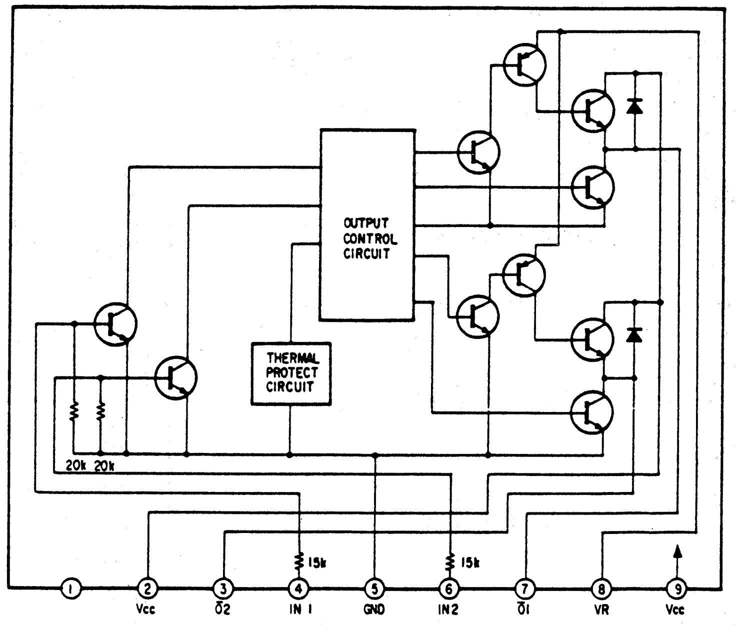
IC105 STK3570


LC7537
R (REAR)
R (FRONT)
R FADER
R FADER
R VSS
R IN
VEE
5V
CE
V CLK
V DATA
VSS
VDD
L IN
L VSS
L FADER
L FADER
L (FRONT)
L (REAR)

IC107 TDA1518Q


POWER STAGE
CM
VA
183
MUTE SWITCH
SIGNAL GROUND
INPUT REFERENCE VOLTAGE
60k
18.125k
100
BOOTSTRAP SWITCH
POWER GROUND (SUB STAGE)
STAND-BY REFERENCE VOLTAGE
Vp
MUTE REFERENCE VOLTAGE
15k
x1

IC301 M54644BL


OUTPUT CONTROL CIRCUIT
THERMAL PROTECT CIRCUIT
20k
15k
Vcc
O2
IN 1
GND
IN2
O1
VR
Vcc

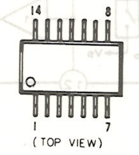
4-4. PRINTED WIRING BOARDS

Note:

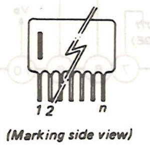
- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.

● Semiconductor Lead Layouts

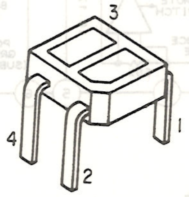
BA14741F
BU4081BF


14
8
1
7
(TOP VIEW)

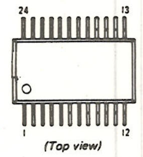
NMX3S900
NMX3S920
STK3570


1 2
n
(Marking side view)

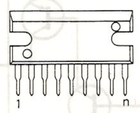
ON2170-R-LF
ON2170-S-LF



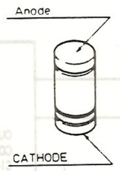
BA3430FS
LC7218M


24
13
1
12
(Top view)

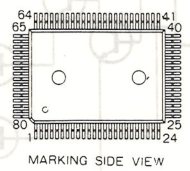
TDA1518Q



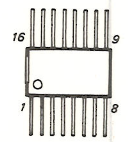
RLZ-J11A
RLZ-J4.7A


Anode
CATHODE

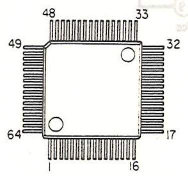
µPD75516GF-057-3B9


64
65
41
40
80
1
25
24
MARKING SIDE VIEW

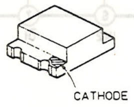
BU4052BF



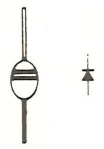
LC7582


48
33
49
32
64
17
1
16

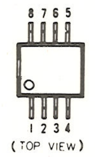
CL-55Y/PG-D



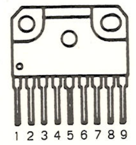
DSA3A4



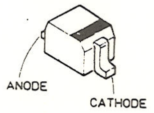
M5280FP


8 7 6 5
1 2 3 4
(TOP VIEW)

M54644BL

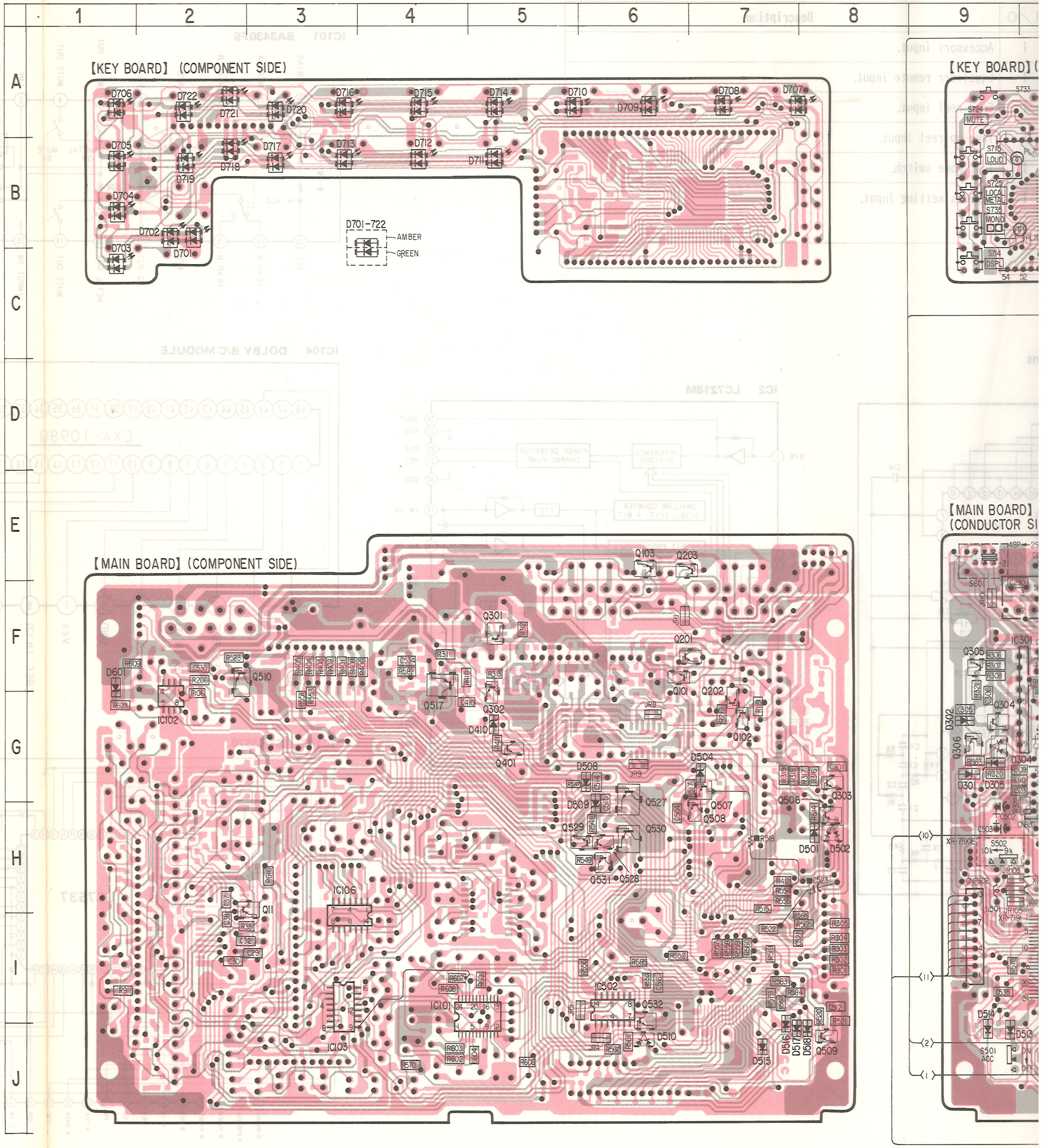


DTZ11A
DTZ4.3B
DTZ4.7A
DTZ5.1B
DTZ5.6B
DTZ6.2B
DTZ8.2B
DTZ9.1B
1SS332


ANODE
CATHODE

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D1	J-15	Q1	J-15
D2	H-15	Q2	H-15
D3	G-14	Q3	G-15
D4	G-14	Q4	G-15
D5	J-15	Q5	H-15
D101	I-15	Q6	H-15
D201	H-14	Q7	G-14
D301	G-9	Q8	I-15
D302	G-9	Q9	G-14
D304	G-9	Q10	G-13
D305	G-9	Q11	H-3
D401	G-13	Q12	G-14
D402	G-14	Q101	F-6
D403	G-14	Q102	G-7
D404	G-14	Q103	E-6
D405	G-14	Q201	F-6
D406	G-13	Q202	G-7
D408	G-13	Q203	E-6
D410	G-5	Q301	F-5
D501	H-8	Q302	G-5
D502	H-8	Q303	G-8
D503	G-10	Q304	G-9
D504	G-7	Q305	F-9
D506	H-10	Q306	G-9
D507	F-14	Q401	G-5
D508	G-6	Q506	H-8
D509	G-6	Q507	G-7
D510	J-6	Q508	H-7
D513	J-9	Q509	J-8
D514	J-9	Q510	F-2
D515	J-7	Q514	F-15
D516	J-7	Q515	G-15
D517	J-7	Q516	F-13
D518	J-8	Q517	F-4
D519	F-10	Q518	G-13
D520	F-15	Q519	F-13
D601	F-1	Q520	F-13
D603	I-13	Q521	F-10
D604	F-12	Q522	F-10
D701	B-2	Q525	I-11
D702	B-2	Q526	I-11
D703	C-1	Q527	G-6
D704	B-1	Q528	H-6
D705	B-1	Q529	H-6
D706	A-1	Q530	H-6
D707	A-7	Q531	H-6
D708	A-7	Q532	J-6
D709	A-6	Q534	I-11
D710	A-5	Q601	F-12
D711	B-5	Q602	F-12
D712	B-4	Q603	F-12
D713	B-3	Q701	C-11
D714	A-5	Q702	B-11
D715	A-4	Q703	B-11
D716	A-3	Q704	B-11
D717	B-3		
D718	B-2		
D719	B-2		
D720	A-3		
D721	A-2		
D722	A-2		
D723	B-11		
D724	B-11		
IC1	H-15		
IC2	H-15		
IC101	I-4		
IC102	G-2		
IC103	I-3		
IC104	J-14		
IC105	H-14		
IC106	H-3		
IC107	F-11		
IC207	F-10		
IC301	F-10		
IC501	I-10		
IC502	J-6		
IC701	B-10		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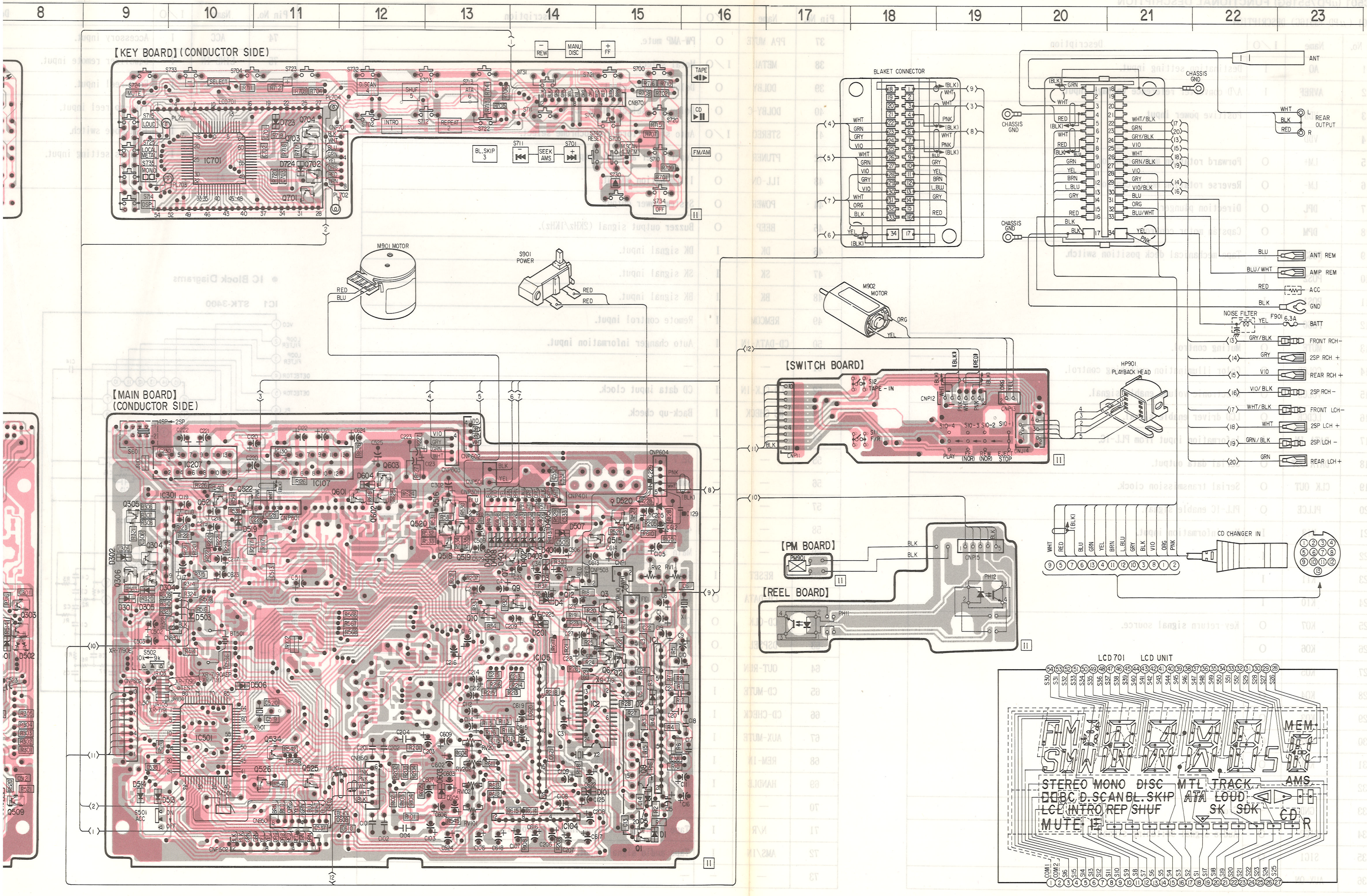
J
[KEY BOARD] (COMPONENT SIDE)
D706
D722
D721
D720
D716
D715
D714
D710
D709
D708
D707
D705
D719
D718
D717
D713
D712
D711
D704
D702
D701
D703
D701-722
AMBER
GREEN
[KEY BOARD]
S724 MUTE
S715 PLAY
S735 LOUD
S725 LOCAL
METAL
S734 MONO
S714 DSPL
[MAIN BOARD] (COMPONENT SIDE)
Q103
Q203
Q301
Q201
Q510
Q517
Q302
Q101
Q202
Q102
D410
Q401
D508
D504
D509
Q527
Q507
Q508
Q529
Q530
Q531
Q528
D501
D502
Q506
D601
IC102
IC106
Q11
IC101
IC502
Q532
D510
IC103
D515
D516
D517
D518
Q509
[MAIN BOARD] (CONDUCTOR SIDE)
S601
IC301
Q305
Q304
D302
Q306
D301
D305
D304
Q303
S502
S501
D514
D513
XR-7190E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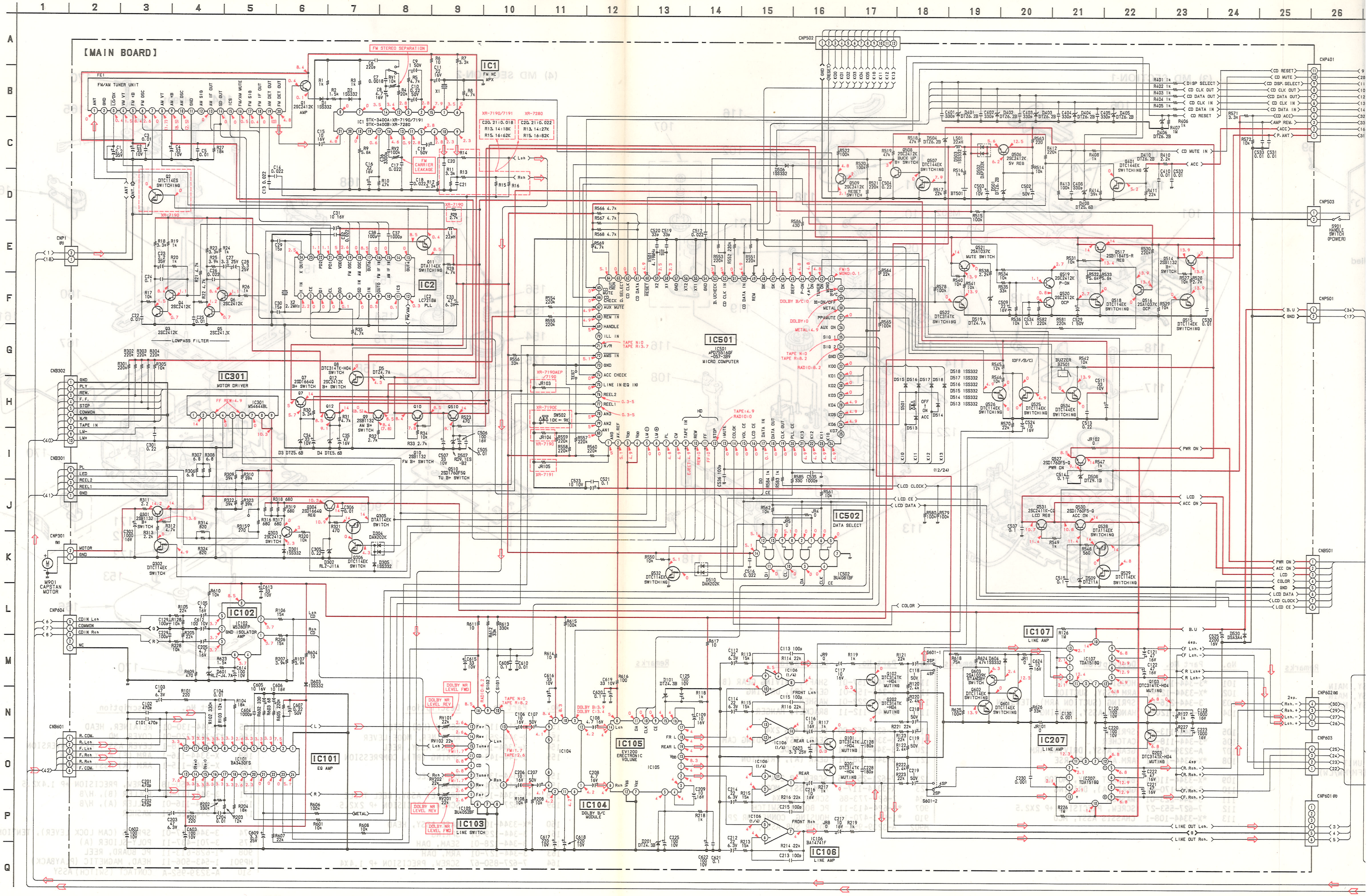
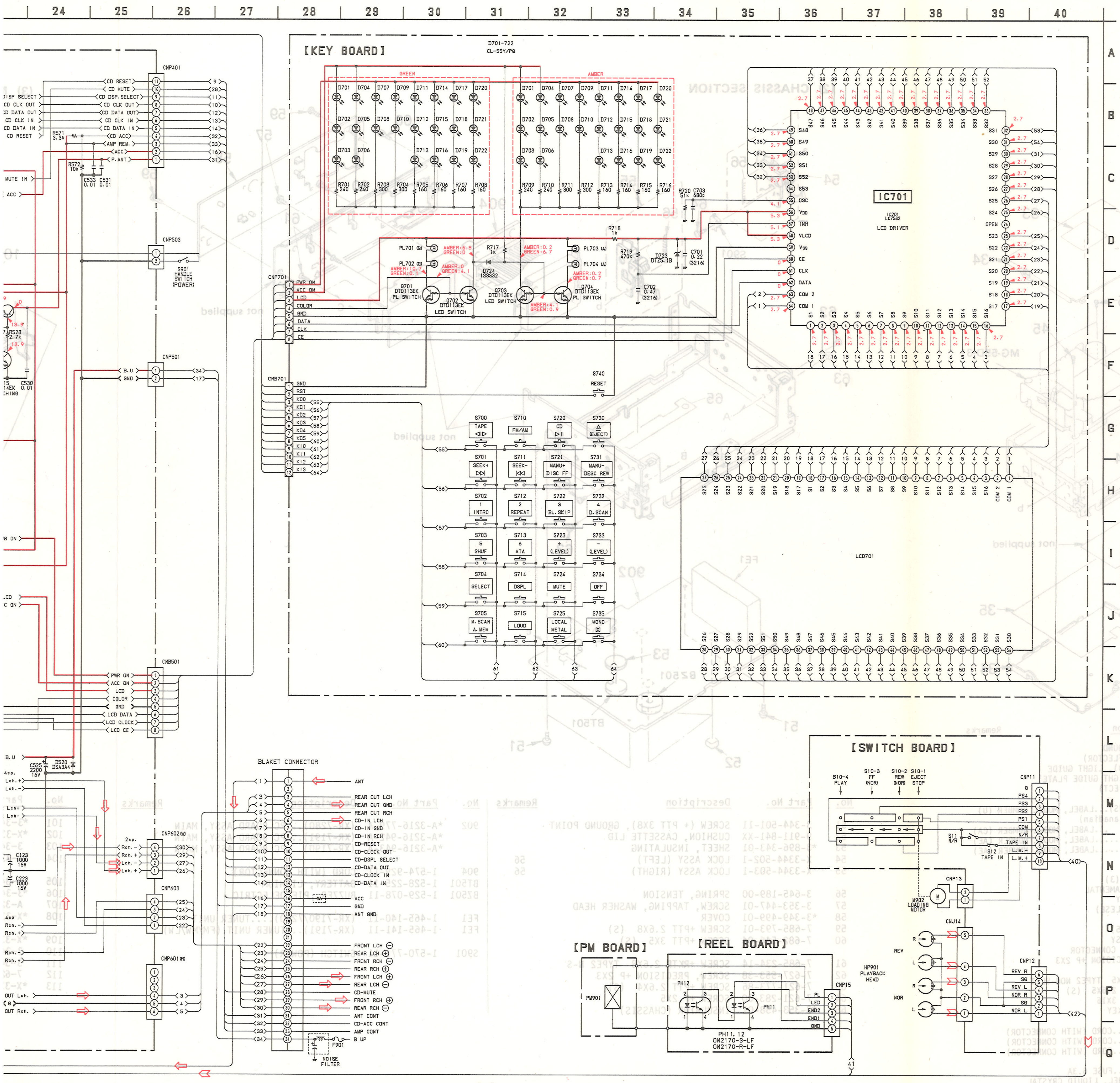
23
[KEY BOARD] (CONDUCTOR SIDE)
IC701
REW
MANU DISC
FF
TAPE
CD
FM/AM
BL.SKIP
SEEK AMS
M901 MOTOR
S901 POWER
RED
BLU
[MAIN BOARD] (CONDUCTOR SIDE)
IC501
IC105
IC104
IC107
IC207
IC301
BLAKET CONNECTOR
CHASSIS GND
ANT
REAR OUTPUT
ANT REM
AMP REM
ACC
GND
NOISE FILTER
F901 6.3A
BATT
FRONT RCH−
2SP RCH +
REAR RCH +
2SP RCH −
FRONT LCH−
2SP LCH +
2SP LCH −
REAR LCH+
M902 MOTOR
[SWITCH BOARD]
HP901 PLAYBACK HEAD
[PM BOARD]
[REEL BOARD]
CD CHANGER IN
LCD701
LCD UNIT
STEREO MONO DISC MTL TRACK AMS
D.SCAN BL.SKIP ATA LOUD
INTRO REP SHUF SK SDK
MUTE CD

4-5. MAIN SECTION SCHEMATIC DIAGRAM *See pages 19 and 20 for Tuner Unit Schematic Diagram and pages 22to 24 for IC Block Diagrams.


[MAIN BOARD]
FE1
FM/AM TUNER UNIT
FM STEREO SEPARATION
IC1
STK-3400A:XR-7190/7191
STK-3400B:XR-7280
IC2
LC7218M
PLL
LOWPASS FILTER
IC301
MOTOR DRIVER
IC501
μPD75516GF
MICRO COMPUTER
IC502
DATA SELECT
IC102
GND ISOLATOR AMP
IC101
EQ AMP
IC103
LINE SWITCH
IC104
DOLBY B/C MODULE
IC105
ELECTRONIC VOLUME
IC106
LINE AMP
IC107
LINE AMP
IC207
LINE AMP
CNP502
CNP401
CNP503
CNP501
CNB501
CNP602
CNP603
CNP601
CNB302
CNB301
CNP301
CNP604
CNB601
CNP1
M901
CAPSTAN MOTOR
S901
HANDLE SWITCH (POWER)
BUZZER
DOLBY NR LEVEL FWD
DOLBY NR LEVEL REV
FM CARRIER LEAKAGE
XR-7190
XR-7280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L
M
N
O
P
Q
[KEY BOARD]
D701-722
CL-55Y/PG
GREEN
AMBER
IC701
LC7582
LCD DRIVER
LCD701
CNP401
CNP503
CNP501
CNB501
CNP701
CNB701
S901
HANDLE
SWITCH
(POWER)
S740
RESET
S700 TAPE
S710 FM/AM
S720 CD
S730 (EJECT)
S701 SEEK+
S711 SEEK-
S721 MANU+ DISC FF
S731 MANU- DESC REW
S702 1 INTRO
S712 2 REPEAT
S722 3 BL.SKIP
S732 4 D.SCAN
S703 5 SHUF
S713 6 ATA
S723 + (LEVEL)
S733 - (LEVEL)
S704 SELECT
S714 DSPL
S724 MUTE
S734 OFF
S705 M.SCAN A.MEM
S715 LOUD
S725 LOCAL METAL
S735 MONO
Q701 DTD113EK PL SWITCH
Q702 DTD113EK LED SWITCH
Q703 DTD113EK LED SWITCH
Q704 DTD113EK PL SWITCH
PL701
PL702
PL703
PL704
D724 1SS352
D725 DTZ5.1B
BLAKET CONNECTOR
F901
NOISE FILTER
[SWITCH BOARD]
S10-4 PLAY
S10-3 FF (NOR)
S10-2 REW (NOR)
S10-1 EJECT STOP
S11 N/R
S12 TAPE IN
M902 LOADING MOTOR
HP901 PLAYBACK HEAD
CNP11
CNP12
CNP13
CNJ14
[PM BOARD]
PM901
[REEL BOARD]
PH11, 12
ON2170-S-LF
ON2170-R-LF
CNP15

Note:

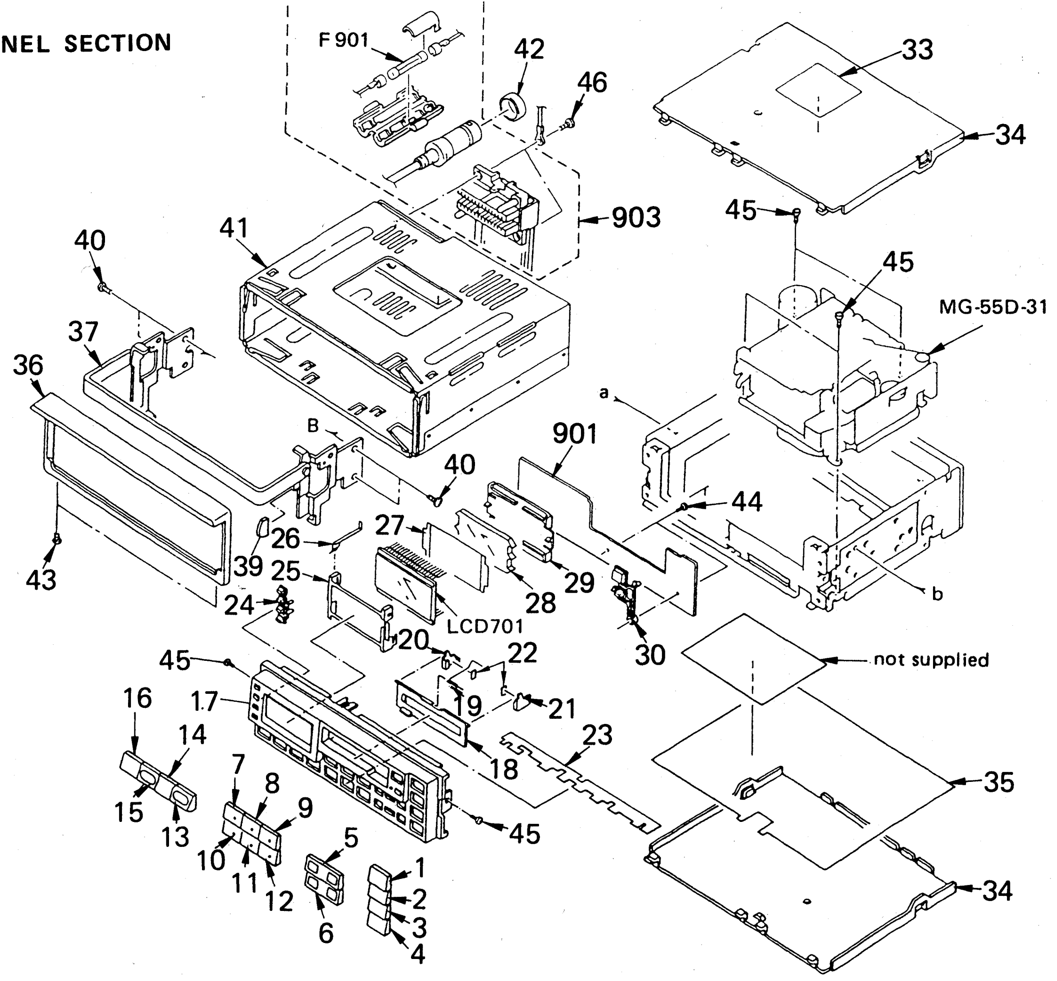
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▬ : B + Line.
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM or PLAY
  (   ) : AM
- Voltages are taken with a VOM (Input impedance 10MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM ⮚ : PB

SECTION 5
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

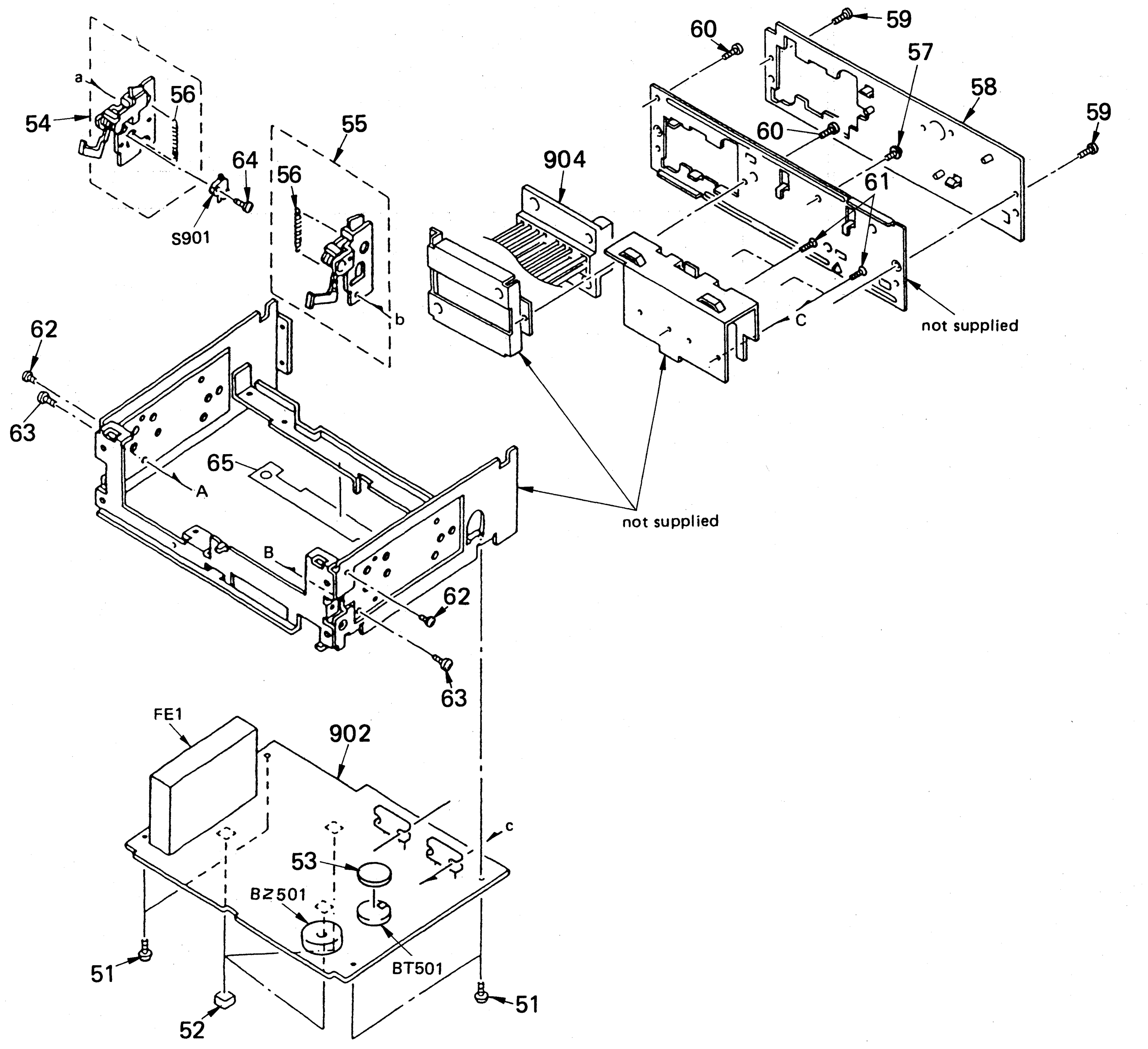
(1) FRONT PANEL SECTION



No.	Part No.	Description	Remarks
1	3-349-473-11	BUTTON (RU:N1)(OFF)	
2	3-349-472-61	(XR-7280/7190)...BUTTON (M:N1)(FM/AM)	
	3-349-472-71	(XR-7191).....BUTTON (M:N1)(FM/MW/LW)	
3	3-349-472-31	BUTTON (M:N1)(CD)	
4	3-349-474-41	BUTTON (RD:N1)(TAPE,PD)	
5	3-349-492-11	BUTTON (M:S2)(SEEK AMS)	
6	3-349-492-41	BUTTON (M:S2)(MANU DISK)	
7	3-349-471-01	BUTTON (M:N1P)(1)	
8	3-349-471-11	BUTTON (M:N1P)(2)	
9	3-349-471-21	BUTTON (M:N1P)(3)	
10	3-349-471-31	BUTTON (M:N1P)(4)	
11	3-349-496-01	BUTTON (M:N1P)(5)	
12	3-349-496-11	BUTTON (M:N1P)(6)	
13	3-349-441-01	BUTTON (LEVEL. +)	
14	3-349-444-01	BUTTON (SELECT)	
15	3-349-442-01	BUTTON (LEVEL. -)	
16	3-349-443-01	BUTTON (MUTE)	
17	3-349-445-22	PANEL, FRONT	
18	3-349-449-41	(XR-7280)...DOOR, CASSETTE	
	3-349-449-71	(XR-7190)...DOOR, CASSETTE	
	3-349-449-81	(XR-7191)...DOOR, CASSETTE	
19	3-349-454-01	SPRING (C DOOR), TORSION	
20	3-349-447-01	PLATE (LEFT), LIGHT GUIDE	
21	3-349-446-01	PLATE (RIGHT), LIGHT GUIDE	
22	*3-901-417-01	SPACER	
23	*3-353-454-01	PLATE (F.P), GROUND	
24	3-349-450-01	BUTTON (4 GANG)	
25	*3-349-453-01	PLATE (LCD), GROUND	

No.	Part No.	Description	Remarks
26	*3-353-410-01	PLATE, GROUND	
27	3-349-440-01	SHEET (REFLECTOR)	
28	*3-349-438-01	PLATE (LCD), LIGHT GUIDE	
29	*3-349-439-01	HOLDER (LIGHT GUIDE PLATE)	
30	3-349-448-01	BUTTON (EJECT)	
33	*3-353-420-01	(XR-7280:US)...LABEL, MODEL NUMBER (U)	
	*3-353-432-01	(XR-7280:Canadian) ...LABEL, MODEL NUMBER (CA)	
	*3-353-488-01	(XR-7190)......LABEL, MODEL NUMBER (AE)	
	*3-353-489-01	(XR-7191)......LABEL, MODEL NUMBER (AE)	
34	*3-353-402-11	COVER	
35	*3-344-560-21	INSULATOR (3)	
36	3-344-564-01	FRAME, ORNAMENTAL	
37	X-3344-508-1	HANDLE ASSY	
39	3-344-526-02	BUTTON (RELESE)	
40	3-344-561-01	SCREW (M4X5)	
41	*X-3344-509-3	BRACKET ASSY	
42	3-566-347-00	COVER (A), CONNECTOR	
43	7-627-553-38	SCREW, PRECISION +P 2X3	
44	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
45	7-621-770-87	SCREW +PTT 2.6X5 (S)	
46	7-682-652-09	SCREW +PSW 3X16	
901	*1-631-749-11	PC BOARD, KEY	
903	1-574-930-11	(XR-7280)...CORD (WITH CONNECTOR)	
	1-574-930-12	(XR-7191)...CORD (WITH CONNECTOR)	
	1-575-169-11	(XR-7190)...CORD (WITH CONNECTOR)	
F901	1-532-422-00	(XR-7280)...FUSE 6.3A	
LCD701	1-808-773-11	DISPLAY PANEL, LIQUID CRYSTAL	

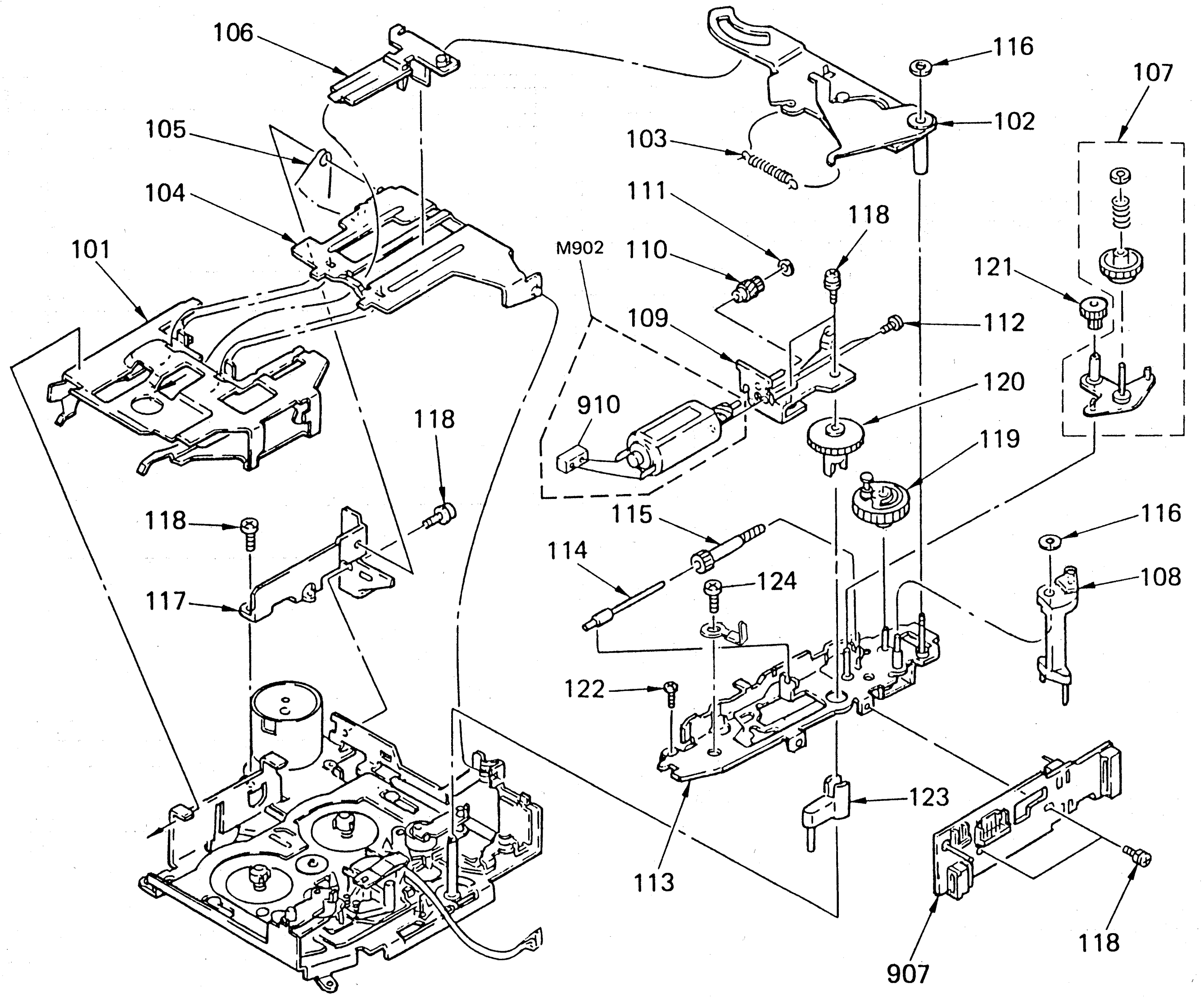
(2) CHASSIS SECTION



No.	Part No.	Description	Remarks
51	3-344-501-11	SCREW (+ PTT 3X8), GROUND POINT	
52	9-911-841-XX	CUSHION, CASSETTE LID	
53	*3-896-343-01	SHEET, INSULATING	
54	X-3344-502-1	LOCK ASSY (LEFT)	56
55	X-3344-503-1	LOCK ASSY (RIGHT)	56
56	3-645-189-00	SPRING, TENSION	
57	3-353-447-01	SCREW, TAPPING, WASHER HEAD	
58	*3-349-499-01	COVER	
59	7-685-793-01	SCREW +PTT 2.6X8 (S)	
60	7-682-546-04	SCREW +PTT 3X5 (S)	
61	7-685-234-14	SCREW +RKTP 2.6X8 TYPE2 N-S	
62	7-627-553-38	SCREW, PRECISION +P 2X3	
63	7-621-773-86	SCREW +PTT 2.6X4 (S)	
64	7-621-283-00	SCREW +P 2X5	
65	*3-353-458-01	INSULATOR (CHASSIS)	

No.	Part No.	Description	Remarks
902	*A-3216-779-A	(XR-7280)...PC BOARD ASSY, MAIN	
	*A-3216-942-A	(XR-7191)...PC BOARD ASSY, MAIN	
	*A-3216-943-A	(XR-7190)...PC BOARD ASSY, MAIN	
904	1-574-929-11	CORD (WITH CONNECTOR)	
BT501	1-528-225-11	BATTERY, LITHIUM	
BZ501	1-529-078-11	BUZZER, PIEZOELECTRIC	
FE1	1-465-140-11	(XR-7190/7280)....TUNER UNIT	
FE1	1-465-141-11	(XR-7191)...TUNER UNIT (FM/MW/LW)	
S901	1-570-771-11	SWITCH (POWER)	

(3) MD SECTION-1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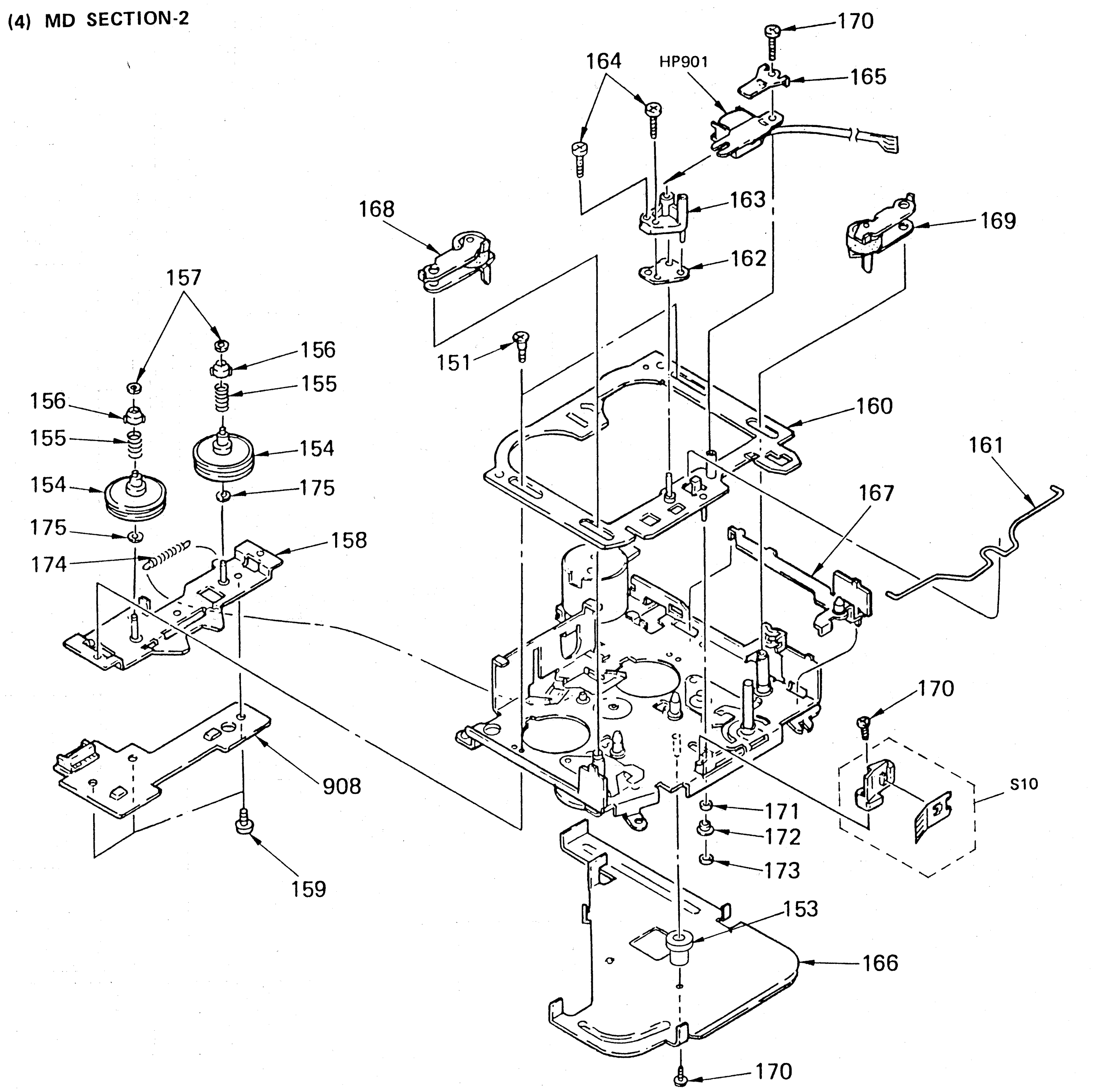
No.	Part No.	Description	Remarks
101	*3-344-103-01	HOUSING, CASSETTE	
102	*X-3344-121-1	ARM ASSY, SUCTION	
103	3-344-216-01	SPRING (SUCTION ARM), TENSION	
104	*X-3344-120-1	HANGER ASSY, HOUSING	
105	3-344-113-01	SPRING	
106	*3-344-118-01	CATCHER	
107	A-3239-954-A	GEAR ASSY, DRIVING ARM	
108	*X-3344-122-1	ARM ASSY, REVERSE	
109	*X-3344-110-1	BRACKET ASSY, MOTOR	
110	3-344-170-01	GEAR (A), DRIVING	
111	3-344-223-01	WASHER	
112	7-627-553-27	SCREW, PRECISION +P 2X2.5	
113	*X-3344-108-1	CHASSIS ASSY, MCU	
114	*3-344-157-01	SHAFT, DRIVING GEAR (B)	
115	3-344-156-01	GEAR (B), DRIVING	
116	3-344-222-01	WASHER	
117	*3-344-112-11	BRACKET, HANGER	
118	7-628-253-00	SCREW +PS 2X4	
119	X-3344-119-1	GEAR ASSY, LOADING CAM	
120	3-344-114-01	GEAR, MODE	
121	3-344-108-01	GEAR (A), FRICTION	
122	7-621-255-25	SCREW +P 2X4	
123	X-3344-117-1	ARM ASSY, MODE	
124	7-621-773-86	SCREW +2.6X4	
907	*1-624-413-11	PC BOARD, SWITCH	
910	*1-563-470-11	HOUSING, CONNECTOR 2P	
M902	A-3239-956-B	MOTOR SUB ASSY, L	

(4) MD SECTION-2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HP901
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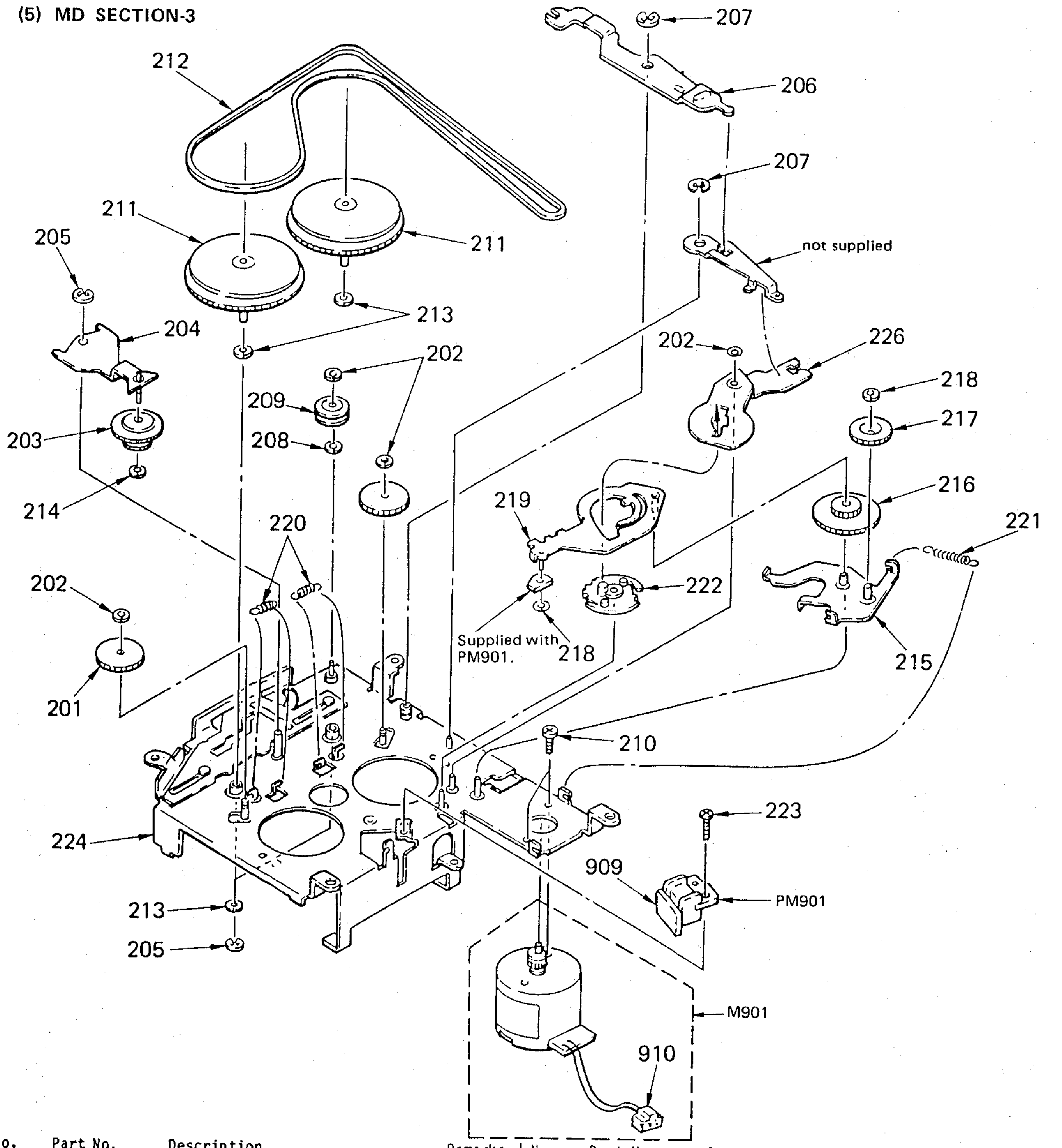
No.	Part No.	Description	Remarks
151	3-344-110-01	SCREW (HB), STEP	
153	3-344-251-01	RETAINER, MODE LEVER	
154	X-3344-104-1	TABLE ASSY, REEL	
155	3-344-143-01	SPRING (BT), COMPRESSION	
156	3-344-136-01	CAP, REEL	
157	3-344-224-01	WASHER	
158	*X-3344-105-1	BRACKET ASSY, REEL TABLE	
159	7-627-553-27	SCREW, PRECISION +P 2X2.5	
160	*X-3344-103-1	BASE ASSY, HEAD	
161	3-344-129-01	SPRING	
162	3-344-128-01	SEAM, DAH	
163	3-344-127-01	ARM, DAH	
164	7-627-850-67	SCREW, PRECISION +P 1.4X4	
165	3-344-130-01	RETAINER, HEAD	
166	*3-344-220-01	COVER, MD	
167	*X-3344-118-1	LEVER ASSY, RVS CONVERSION	
168	X-3344-116-1	ARM (F) ASSY, PINCH	
169	X-3344-115-1	ARM (R) ASSY, PINCH	
170	7-627-850-18	SCREW, PRECISION +P 1.4X2.5	
171	3-344-117-01	ROLLER (B), H/B	
172	3-344-116-01	ROLLER (A), H/B	
173	3-344-222-01	WASHER	
174	3-344-217-01	SPRING (CAM LOCK LEVER), TENTION	
175	3-701-437-11	POLY-SLIDER (A)	
908	*1-628-613-11	PC BOARD, REEL	
HP901	1-543-506-11	HEAD, MAGNETIC (PLAYBACK)	
S10	A-3239-952-A	CONTACT (SWITCH) ASSY	

(5) MD SECTION-3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PM901
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M901
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No.	Part No.	Description	Remarks
201	3-344-104-01	GEAR, PLAY	
202	3-344-222-01	WASHER	
203	X-3344-102-1	GEAR ASSY, FR	
204	*X-3344-101-1	ARM ASSY, FR	
205	3-590-768-00	RING (A), E	
206	*3-344-107-01	ARM, POWER	
207	7-624-104-04	STOP RING 2.0, TYPE -E	
208	3-701-436-01	WASHER, 1.6	
209	3-344-105-01	PULLEY (ASSY), MIDWAY	
210	7-627-553-27	SCREW, PRECISION +P 2X2.5	
211	3-344-231-01	FLYWHEEL (A)	
212	3-344-115-01	BELT	
213	3-701-437-11	POLY-SLIDER (A)	
214	3-344-224-01	WASHER	
215	*X-3344-106-1	LEVER ASSY, RVS GEAR (B)	
216	3-344-146-01	GEAR (B), RVS	
217	3-344-147-01	GEAR (A), RVS	
218	3-344-223-01	WASHER	
219	X-3344-107-1	LEVER ASSY, CAM LOCK	
220	3-344-218-02	SPRING (PLAY ARM), TENSION	
221	3-344-215-01	SPRING, TENSION	
222	3-344-119-01	GEAR, RVS CAM	
223	7-627-850-67	SCREW, PRECISION +P 1.4X4	
224	*X-3344-135-1	CHASSIS ASSY, MECHANICAL	
226	*X-3344-114-1	LEVER ASSY, RVS	
909	*1-628-613-11	PC BOARD, PM	
910	*1-563-470-11	HOUSING, CONNECTOR 2P	
M901	X-3344-136-1	MOTOR SUB ASSY, CAPSTAN	
PM901	1-454-461-11	SOLENOID, PLUNGER	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- *Due to standardization*, replacements in the parts list may be different from the parts specified in *the diagrams* or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

Ref.No.	Part No.	Description			
901	*1-631-749-11	PC BOARD, KEY			
902	*A-3216-779-A	(XR-7280)...PC BOARD ASSY, MAIN			
	*A-3216-942-A	(XR-7191)...PC BOARD ASSY, MAIN			
	*A-3216-943-A	(XR-7190)...PC BOARD ASSY, MAIN			
903	1-574-930-11	(XR-7280)...CORD (WITH CONNECTOR)			
	1-574-930-12	(XR-7191)...CORD (WITH CONNECTOR)			
	1-575-169-11	(XR-7190)...CORD (WITH CONNECTOR)			
904	1-574-929-11	CORD (WITH CONNECTOR)			
907	*1-624-413-11	PC BOARD, SWITCH			
908	*1-628-613-11	PC BOARD, REEL			
909	1-628-613-11	PC BOARD, PM			
910	*1-563-470-11	HOUSING, CONNECTOR 2P			
BT501	1-528-225-11	BATTERY, LITHIUM			
BZ501	1-529-078-11	BUZZER, PIEZOELECTRIC			
C1	1-126-161-11	ELECT	2.2MF	20%	35V
C2	1-124-229-00	ELECT	33MF	20%	10V
C3	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C4	1-124-229-00	ELECT	33MF	20%	10V
C5	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C6	1-163-125-00	CERAMIC CHIP	220PF	10%	50V
C7	1-130-474-00	MYLAR	0.0018MF	5%	50V
C8	1-126-281-11	ELECT	4.7MF	20%	16V
C9	1-124-438-00	ELECT	1MF	20%	50V
C10	1-124-464-11	ELECT	0.22MF	20%	50V
C11	1-124-234-00	ELECT	22MF	20%	16V
C13	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C14	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C15	1-126-157-11	ELECT	10MF	20%	16V
C16	1-124-234-00	ELECT	22MF	20%	16V
C17	1-163-157-00	FILM	0.022MF	5%	50V
C18	1-163-157-00	FILM	0.022MF	5%	50V
C19	1-124-438-00	ELECT	1MF	20%	50V
C20	1-136-156-00	(XR-7190/7191)...FILM	0.018MF	5%	50V
C20	1-163-157-00	(XR-7280)........FILM	0.022MF	5%	50V
C21	1-136-156-00	(XR-7190/7191)...FILM	0.018MF	5%	50V
C21	1-163-157-00	(XR-7280)........FILM	0.022MF	5%	50V
C22	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C23	1-126-161-11	ELECT	2.2MF	20%	35V
C24	1-136-165-00	FILM	0.1MF	5%	50V
C25	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C26	1-163-157-00	FILM	0.022MF	5%	50V
C27	1-126-566-11	ELECT	3.3MF	20%	25V
C28	1-126-566-11	ELECT	3.3MF	20%	25V

Ref.No.	Part No.	Description			
C29	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C30	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C31	1-126-157-11	ELECT	10MF	20%	16V
C32	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C33	1-126-154-11	ELECT	47MF	20%	6.3V
C34	1-124-229-00	ELECT	33MF	20%	10V
C35	1-124-589-11	ELECT	47MF	20%	16V
C36	1-163-015-00	CERAMIC CHIP	0.0033MF	10%	50V
C37	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C38	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C101	1-130-467-00	MYLAR	470PF	5%	50V
C102	1-130-467-00	MYLAR	470PF	5%	50V
C103	1-126-154-11	ELECT	47MF	20%	6.3V
C104	1-136-153-00	FILM	0.01MF	5%	50V
C105	1-126-281-11	ELECT	4.7MF	20%	16V
C106	1-126-157-11	ELECT	10MF	20%	16V
C107	1-124-438-00	ELECT	1MF	20%	50V
C108	1-126-281-11	ELECT	4.7MF	20%	16V
C109	1-126-157-11	ELECT	10MF	20%	16V
C112	1-126-153-11	ELECT	22MF	20%	6.3V
C113	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C114	1-126-153-11	ELECT	22MF	20%	6.3V
C115	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C116	1-126-157-11	ELECT	10MF	20%	16V
C117	1-126-157-11	ELECT	10MF	20%	16V
C118	1-124-438-00	ELECT	1MF	20%	50V
C119	1-124-438-00	ELECT	1MF	20%	50V
C120	1-124-443-00	ELECT	100MF	20%	10V
C121	1-124-477-11	ELECT	47MF	20%	16V
C122	1-124-477-11	ELECT	47MF	20%	16V
C123	1-124-360-00	ELECT	1000MF	20%	16V
C125	1-124-584-00	ELECT	100MF	20%	10V
C128	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C129	1-162-282-31	CERAMIC	100PF	10%	50V
C130	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C201	1-130-467-00	MYLAR	470PF	5%	50V
C202	1-130-467-00	MYLAR	470PF	5%	50V
C203	1-126-154-11	ELECT	47MF	20%	6.3V
C204	1-136-153-00	FILM	0.01MF	5%	50V
C205	1-126-281-11	ELECT	4.7MF	20%	16V
C206	1-126-157-11	ELECT	10MF	20%	16V
C207	1-124-438-00	ELECT	1MF	20%	50V
C208	1-126-281-11	ELECT	4.7MF	20%	16V
C209	1-126-157-11	ELECT	10MF	20%	16V
C212	1-126-153-11	ELECT	22MF	20%	6.3V
C213	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

Ref.No.	Part No.	Description			
C214	1-126-153-11	ELECT	22MF	20%	6.3V
C215	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C216	1-126-157-11	ELECT	10MF	20%	16V
C217	1-126-157-11	ELECT	10MF	20%	16V
C218	1-124-438-00	ELECT	1MF	20%	50V
C219	1-124-438-00	ELECT	1MF	20%	50V
C220	1-124-443-00	ELECT	100MF	20%	10V
C221	1-124-477-11	ELECT	47MF	20%	16V
C222	1-124-477-11	ELECT	47MF	20%	16V
C223	1-124-360-00	ELECT	1000MF	20%	16V
C225	1-124-584-00	ELECT	100MF	20%	10V
C228	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C229	1-162-282-31	CERAMIC	100PF	10%	50V
C230	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C301	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C302	1-124-360-00	ELECT	1000MF	20%	16V
C305	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C306	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C401	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C402	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C403	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C404	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C405	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C408	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C410	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C502	1-124-438-00	ELECT	1MF	20%	50V
C503	1-124-229-00	ELECT	33MF	20%	10V
C504	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C505	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C506	1-124-584-00	ELECT	100MF	20%	10V
C507	1-124-229-00	ELECT	33MF	20%	10V
C509	1-124-234-00	ELECT	22MF	20%	16V
C511	1-124-229-00	ELECT	33MF	20%	10V
C512	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C513	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C514	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C515	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C516	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C519	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C520	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C521	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C523	1-131-377-00	TANTALUM	10MF	10%	10V
C524	1-126-157-11	ELECT	10MF	20%	16V
C525	1-124-556-11	ELECT	2200MF	20%	16V
C529	1-124-438-00	ELECT	1MF	20%	50V
C530	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C531	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C532	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C533	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C534	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C535	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C536	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C537	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C602	1-124-584-00	ELECT	100MF	20%	10V
C603	1-124-584-00	ELECT	100MF	20%	10V
C604	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C605	1-126-157-11	ELECT	10MF	20%	16V

Ref.No.	Part No.	Description			
C606	1-126-157-11	ELECT	10MF	20%	16V
C607	1-124-464-11	ELECT	0.22MF	20%	50V
C608	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C609	1-126-566-11	ELECT	3.3MF	20%	25V
C610	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C612	1-124-584-00	ELECT	100MF	20%	10V
C613	1-124-229-00	ELECT	33MF	20%	10V
C614	1-124-584-00	ELECT	100MF	20%	10V
C615	1-124-229-00	ELECT	33MF	20%	10V
C616	1-124-229-00	ELECT	33MF	20%	10V
C617	1-126-176-11	ELECT	220MF	20%	10V
C618	1-126-176-11	ELECT	220MF	20%	10V
C619	1-124-229-00	ELECT	33MF	20%	10V
C620	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C621	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C622	1-124-584-00	ELECT	100MF	20%	10V
C623	1-126-566-11	ELECT	3.3MF	20%	25V
C624	1-126-157-11	ELECT	10MF	20%	16V
C701	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C702	1-162-637-11	CERAMIC CHIP	0.47MF		16V
C703	1-163-201-00	CERAMIC CHIP	680PF	10%	50V
CNJ14	1-565-038-11	CONNECTOR, F.P.C 5P			
CNP1	*1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP11	*1-566-007-11	PIN, CONNECTOR (PC BOARD) 10P			
CNP12	*1-566-003-11	PIN, CONNECTOR (PC BOARD) 6P			
CNP13	*1-506-998-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP15	*1-566-002-11	PIN, CONNECTOR (PC BOARD) 5P			
CNP301	*1-506-984-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP401	*1-506-993-11	PIN, CONNECTOR (PC BOARD) 11P			
CNP501	1-564-320-00	PIN, CONNECTOR 2P			
CNP502	*1-566-009-11	PIN, CONNECTOR (PC BOARD) 12P			
CNP503	*1-506-984-31	PIN, CONNECTOR (PC BOARD) 2P			
CNP601	*1-506-988-11	PIN, CONNECTOR (PC BOARD) 6P			
CNP602	*1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP603	*1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP604	*1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			
CNP701	*1-506-990-11	PIN, CONNECTOR (PC BOARD) 8P			
D1	8-719-976-31	DIODE 1SS332			
D2	8-719-976-31	DIODE 1SS332			
D3	8-719-977-03	DIODE DTZ5.6B			
D4	8-719-977-04	DIODE DTZ9.1B			
D5	8-719-976-94	DIODE DTZ4.7A			
D101	8-719-976-91	DIODE DTZ4.3B			
D201	8-719-976-91	DIODE DTZ4.3B			
D301	8-719-976-31	DIODE 1SS332			
D302	8-719-973-30	DIODE RLZ-J11A			
D304	8-719-400-18	DIODE MA152WK			
D305	8-719-976-31	DIODE 1SS332			
D401	8-719-977-07	DIODE DTZ6.2B			
D402	8-719-977-07	DIODE DTZ6.2B			
D403	8-719-977-07	DIODE DTZ6.2B			
D404	8-719-977-07	DIODE DTZ6.2B			
D405	8-719-977-07	DIODE DTZ6.2B			
D406	8-719-977-07	DIODE DTZ6.2B			
D408	8-719-977-03	DIODE DTZ5.6B			

Ref.No.	Part No.	Description
D410	8-719-977-20	DIODE DTZ8.2B
D501	8-719-977-07	DIODE DTZ6.2B
D502	8-719-104-34	DIODE DCA015
D503	8-719-976-31	DIODE 1SS332
D504	8-719-977-07	DIODE DTZ6.2B
D506	8-719-976-31	DIODE 1SS332
D507	8-719-977-04	DIODE DTZ9.1B
D508	8-719-977-04	DIODE DTZ9.1B
D509	8-719-977-31	DIODE DTZ11A
D510	8-719-400-18	DIODE MA152WK
D513	8-719-976-31	DIODE 1SS332
D514	8-719-976-31	DIODE 1SS332
D515	8-719-976-31	DIODE 1SS332
D516	8-719-976-31	DIODE 1SS332
D517	8-719-976-31	DIODE 1SS332
D518	8-719-976-31	DIODE 1SS332
D519	8-719-976-94	DIODE DTZ4.7A
D520	8-719-945-59	DIODE DSA3A4
D601	8-719-972-42	DIODE RLZ-J4.7A
D603	8-719-976-31	DIODE 1SS332
D604	8-719-976-31	DIODE 1SS332
D701	8-719-975-27	DIODE CL-55Y/PG-D
D702	8-719-975-27	DIODE CL-55Y/PG-D
D703	8-719-975-27	DIODE CL-55Y/PG-D
D704	8-719-975-27	DIODE CL-55Y/PG-D
D705	8-719-975-27	DIODE CL-55Y/PG-D
D706	8-719-975-27	DIODE CL-55Y/PG-D
D707	8-719-975-27	DIODE CL-55Y/PG-D
D708	8-719-975-27	DIODE CL-55Y/PG-D
D709	8-719-975-27	DIODE CL-55Y/PG-D
D710	8-719-975-27	DIODE CL-55Y/PG-D
D711	8-719-975-27	DIODE CL-55Y/PG-D
D712	8-719-975-27	DIODE CL-55Y/PG-D
D713	8-719-975-27	DIODE CL-55Y/PG-D
D714	8-719-975-27	DIODE CL-55Y/PG-D
D715	8-719-975-27	DIODE CL-55Y/PG-D
D716	8-719-975-27	DIODE CL-55Y/PG-D
D717	8-719-975-27	DIODE CL-55Y/PG-D
D718	8-719-975-27	DIODE CL-55Y/PG-D
D719	8-719-975-27	DIODE CL-55Y/PG-D
D720	8-719-975-27	DIODE CL-55Y/PG-D
D721	8-719-975-27	DIODE CL-55Y/PG-D
D722	8-719-975-27	DIODE CL-55Y/PG-D
D723	8-719-976-99	DIODE DTZ5.1B
D724	8-719-976-31	DIODE 1SS332
F901	1-532-422-00	(XR-7280)...FUSE 6.3A
FE1	1-465-140-11	(XR-7190/7280)....TUNER UNIT
FE1	1-465-141-11	(XR-7191)...TUNER UNIT (FM/MW/LW)
HP901	1-543-506-11	HEAD, MAGNETIC (PLAYBACK)
IC1	1-808-515-11	(XR-7190/7191)...IC NMX3S900
IC1	1-808-516-11	(XR-7280)........IC NMX3S920
IC2	8-759-821-43	IC LC7218M
IC101	8-759-988-33	IC BA3430FS
IC102	8-759-631-00	IC M5280FP
IC103	8-759-932-64	IC BU4052BF
IC104	1-808-774-11	MODULE, DOLBY B/C
IC105	8-759-995-12	IC EV1200

Ref.No.	Part No.	Description
IC106	8-759-988-36	IC BA14741F
IC107	8-759-981-45	IC TDA1518Q
IC207	8-759-981-45	IC TDA1518Q
IC301	8-759-631-01	IC M54644BL
IC501	8-759-146-28	IC UPD75516GF-057-3B9
IC502	8-759-932-86	IC BU4081BF
IC701	8-759-821-44	IC LC7582
JR1	1-216-296-00	METAL GLAZE 0 5% 1/8W
JR4	1-216-296-00	METAL GLAZE 0 5% 1/8W
JR5	1-216-296-00	METAL GLAZE 0 5% 1/8W
JR8	1-216-295-00	METAL GLAZE 0 5% 1/10W
JR9	1-216-295-00	METAL GLAZE 0 5% 1/10W
JR101	1-216-296-00	METAL GLAZE 0 5% 1/8W
JR102	1-216-296-00	METAL GLAZE 0 5% 1/8W
JR103	1-216-296-00	(XR-7190:AEP/7191) ...METAL GLAZE 0 5% 1/8W
JR104	1-216-296-00	(XR-7190)...METAL GLAZE 0 5% 1/8W
JR105	1-216-296-00	(XR-7190)...METAL GLAZE 0 5% 1/8W
L1	1-410-513-11	INDUCTOR 22UH
L501	1-410-513-11	INDUCTOR 22UH
LCD701	1-808-773-11	DISPLAY PANEL, LIQUID CRYSTAL
M901	X-3344-136-1	MOTOR SUB ASSY, CAPSTAN
M902	A-3239-956-B	MOTOR SUB ASSY, L
PH11,12	8-719-420-46	PHOTO SENSOR ON2170-R-LF
PH11,12	8-719-420-47	PHOTO SENSOR ON2170-S-LF
PL701	1-518-648-11	LAMP, PILOT
PL702	1-518-648-11	LAMP, PILOT
PL703	1-518-646-11	LAMP, PILOT
PL704	1-518-646-11	LAMP, PILOT
PM901	1-454-461-11	SOLENOID, PLUNGER
Q1	8-729-901-78	TRANSISTOR 2SC2412K-R
Q2	8-729-900-53	(XR-7191)...TRANSISTOR DTC114EK
Q3	8-729-901-78	TRANSISTOR 2SC2412K-R
Q4	8-729-901-78	TRANSISTOR 2SC2412K-R
Q5	8-729-901-78	TRANSISTOR 2SC2412K-R
Q6	8-729-901-78	TRANSISTOR 2SC2412K-R
Q7	8-729-106-68	TRANSISTOR 2SD1615A-GP
Q8	8-729-920-21	TRANSISTOR DTC314TK-H04
Q9	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q10	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q11	8-729-901-04	TRANSISTOR DTA114EK
Q12	8-729-901-78	TRANSISTOR 2SC2412K-R
Q101	8-729-920-21	TRANSISTOR DTC314TK-H04
Q102	8-729-920-21	TRANSISTOR DTC314TK-H04
Q103	8-729-920-21	TRANSISTOR DTC314TK-H04
Q201	8-729-920-21	TRANSISTOR DTC314TK-H04
Q202	8-729-920-21	TRANSISTOR DTC314TK-H04
Q203	8-729-920-21	TRANSISTOR DTC314TK-H04
Q301	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q302	8-729-900-53	TRANSISTOR DTC114EK
Q303	8-729-901-78	TRANSISTOR 2SC2412K-R
Q304	8-729-106-68	TRANSISTOR 2SD1615A-GP
Q305	8-729-901-04	TRANSISTOR DTA114EK
Q306	8-729-900-53	TRANSISTOR DTC114EK
Q401	8-729-901-01	TRANSISTOR DTC144EK
Q506	8-729-901-78	TRANSISTOR 2SC2412K-R
Q507	8-729-901-01	TRANSISTOR DTC144EK

Ref.No.	Part No.	Description
Q508	8-729-901-78	TRANSISTOR 2SC2412K-R
Q509	8-729-901-78	TRANSISTOR 2SC2412K-R
Q510	8-729-921-48	TRANSISTOR 2SD1760F5-Q
Q514	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q515	8-729-900-53	TRANSISTOR DTC114EK
Q516	8-729-216-22	TRANSISTOR 2SA1162
Q517	8-729-922-47	TRANSISTOR 2SB1184-F5-R
Q518	8-729-900-53	TRANSISTOR DTC114EK
Q519	8-729-901-78	TRANSISTOR 2SC2412K-R
Q520	8-729-901-78	TRANSISTOR 2SC2412K-R
Q521	8-729-216-22	TRANSISTOR 2SA1162
Q522	8-729-920-21	TRANSISTOR DTC314TK-H04
Q525	8-729-900-53	TRANSISTOR DTC114EK
Q526	8-729-900-53	TRANSISTOR DTC114EK
Q527	8-729-921-48	TRANSISTOR 2SD1760F5-Q
Q528	8-729-901-04	TRANSISTOR DTA114EK
Q529	8-729-900-53	TRANSISTOR DTC114EK
Q530	8-729-921-48	TRANSISTOR 2SD1760F5-Q
Q531	8-729-901-87	TRANSISTOR 2SC2411K-CQ
Q532	8-729-900-53	TRANSISTOR DTC114EK
Q534	8-729-901-01	TRANSISTOR DTC144EK
Q601	8-729-900-53	TRANSISTOR DTC114EK
Q602	8-729-900-53	TRANSISTOR DTC114EK
Q603	8-729-216-22	TRANSISTOR 2SA1162
Q701	8-729-904-66	TRANSISTOR DTD113EK
Q702	8-729-904-66	TRANSISTOR DTD113EK
Q703	8-729-904-66	TRANSISTOR DTD113EK
Q704	8-729-904-66	TRANSISTOR DTD113EK
R1	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R2	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R3	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R4	1-216-080-00	METAL GLAZE 20K 5% 1/10W
R5	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R6	1-216-001-00	METAL GLAZE 10 5% 1/10W
R7	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R8	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R9	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W
R10	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R11	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R12	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R13	1-216-079-00	(XR-7190/7191) ...METAL GLAZE 18K 5% 1/10W
R13	1-216-083-00	(XR-7280)...METAL GLAZE 27K 5% 1/10W
R14	1-216-079-00	(XR-7190/7191) ...METAL GLAZE 18K 5% 1/10W
R14	1-216-083-00	(XR-7280)...METAL GLAZE 27K 5% 1/10W
R15	1-216-092-00	(XR-7190/7191) ...METAL GLAZE 62K 5% 1/10W
R15	1-216-095-00	(XR-7280)...METAL GLAZE 82K 5% 1/10W
R16	1-216-092-00	(XR-7190/7191) ...METAL GLAZE 62K 5% 1/10W
R16	1-216-095-00	(XR-7280)...METAL GLAZE 82K 5% 1/10W
R17	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R18	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R19	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R20	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R21	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R22	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R23	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R24	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R25	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W
R26	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R27	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R28	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R30	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R29	1-216-059-00	(XR-7191)...METAL GLAZE 2.7K 5% 1/10W
R31	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R32	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R33	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W
R34	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R35	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R101	1-216-033-00	METAL GLAZE 220 5% 1/10W
R102	1-216-109-00	METAL GLAZE 330K 5% 1/10W
R103	1-216-075-00	METAL GLAZE 12K 5% 1/10W
R104	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R105	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R106	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R107	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W
R108	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R113	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R114	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R115	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R116	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R117	1-216-198-00	METAL GLAZE 1K 5% 1/8W
R118	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R119	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R120	1-216-058-00	METAL GLAZE 2.4K 5% 1/10W
R121	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R122	1-216-058-00	METAL GLAZE 2.4K 5% 1/10W
R123	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R126	1-216-121-00	METAL GLAZE 1M 5% 1/10W
R127	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R128	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R201	1-216-033-00	METAL GLAZE 220 5% 1/10W
R202	1-216-109-00	METAL GLAZE 330K 5% 1/10W
R203	1-216-075-00	METAL GLAZE 12K 5% 1/10W
R204	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R205	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R206	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R207	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W
R208	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R213	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R214	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R215	1-216-077-00	METAL GLAZE 15K 5% 1/10W
R216	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R217	1-216-198-00	METAL GLAZE 1K 5% 1/8W
R218	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R219	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R220	1-216-058-00	METAL GLAZE 2.4K 5% 1/10W
R221	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R222	1-216-058-00	METAL GLAZE 2.4K 5% 1/10W
R223	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R226	1-216-121-00	METAL GLAZE 1M 5% 1/10W
R227	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R228	1-216-073-00	METAL GLAZE 10K 5% 1/10W

Ref.No.	Part No.	Description			
R301	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R302	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R303	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R304	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R305	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R306	1-216-146-00	METAL GLAZE	6.8	5%	1/8W
R307	1-216-146-00	METAL GLAZE	6.8	5%	1/8W
R308	1-216-146-00	METAL GLAZE	6.8	5%	1/8W
R309	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R310	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R311	1-216-134-00	METAL GLAZE	2.2	5%	1/8W
R312	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R313	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R314	1-216-196-00	METAL GLAZE	820	5%	1/8W
R315	1-216-035-00	METAL GLAZE	270	5%	1/10W
R316	1-216-194-00	METAL GLAZE	680	5%	1/8W
R317	1-216-194-00	METAL GLAZE	680	5%	1/8W
R318	1-216-194-00	METAL GLAZE	680	5%	1/8W
R319	1-216-194-00	METAL GLAZE	680	5%	1/8W
R320	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R321	1-216-041-00	METAL GLAZE	470	5%	1/10W
R322	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R323	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R324	1-216-196-00	METAL GLAZE	820	5%	1/8W
R401	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R402	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R403	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R404	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R405	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R406	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R407	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R408	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R410	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R411	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R412	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R413	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R414	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R514	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R515	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R516	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R517	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R518	1-249-437-11	CARBON	47K	5%	1/4W
R519	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R520	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R521	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R522	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R523	1-216-041-00	METAL GLAZE	470	5%	1/10W
R527	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R528	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R529	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R530	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R531	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R532	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R533	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R534	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R535	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R536	1-216-073-00	METAL GLAZE	10K	5%	1/10W

Ref.No.	Part No.	Description			
R538	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R540	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R541	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R542	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R545	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R546	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R547	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R548	1-216-043-00	METAL GLAZE	560	5%	1/10W
R549	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R550	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R551	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R552	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R553	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R554	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R555	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R556	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R557	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R558	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R559	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R560	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R561	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R562	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R563	1-216-033-00	METAL GLAZE	220	5%	1/10W
R564	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R565	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R566	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R567	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R568	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R569	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R570	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R571	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R572	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R578	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R579	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R580	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R581	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R582	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R583	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R584	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R585	1-216-037-00	METAL GLAZE	330	5%	1/10W
R586	1-216-040-00	METAL GLAZE	430	5%	1/10W
R601	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R602	1-216-037-00	METAL GLAZE	330	5%	1/10W
R603	1-216-021-00	METAL GLAZE	68	5%	1/10W
R604	1-216-001-00	METAL GLAZE	10	5%	1/10W
R605	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R606	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R607	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R608	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R609	1-216-041-00	METAL GLAZE	470	5%	1/10W
R610	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R611	1-216-001-00	METAL GLAZE	10	5%	1/10W
R612	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R613	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R614	1-216-001-00	METAL GLAZE	10	5%	1/10W
R615	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R616	1-216-025-00	METAL GLAZE	100	5%	1/10W

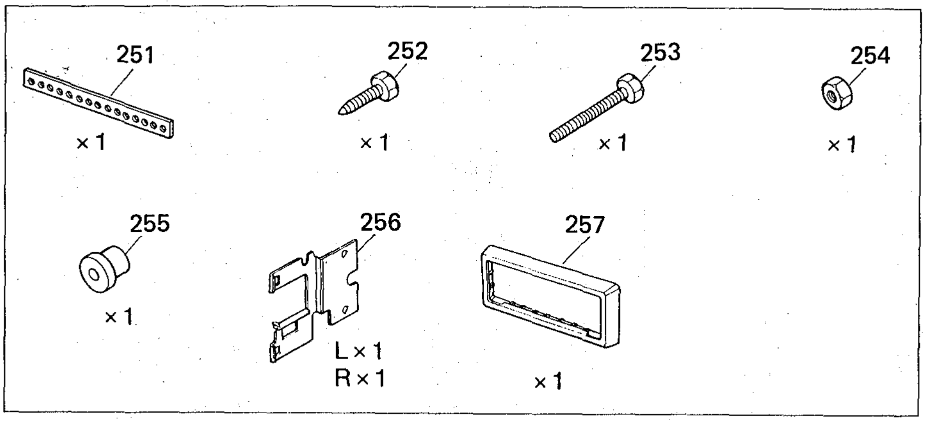
Ref.No.	Part No.	Description
R617	1-216-001-00	METAL GLAZE 10 5% 1/10W
R618	1-216-094-00	METAL GLAZE 75K 5% 1/10W
R623	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R624	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R625	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R626	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R701	1-216-034-00	METAL GLAZE 240 5% 1/10W
R702	1-216-034-00	METAL GLAZE 240 5% 1/10W
R703	1-216-036-00	METAL GLAZE 300 5% 1/10W
R704	1-216-036-00	METAL GLAZE 300 5% 1/10W
R705	1-216-030-00	METAL GLAZE 160 5% 1/10W
R706	1-216-030-00	METAL GLAZE 160 5% 1/10W
R707	1-216-030-00	METAL GLAZE 160 5% 1/10W
R708	1-216-030-00	METAL GLAZE 160 5% 1/10W
R709	1-216-034-00	METAL GLAZE 240 5% 1/10W
R710	1-216-034-00	METAL GLAZE 240 5% 1/10W
R711	1-216-036-00	METAL GLAZE 300 5% 1/10W
R712	1-216-036-00	METAL GLAZE 300 5% 1/10W
R713	1-216-030-00	METAL GLAZE 160 5% 1/10W
R714	1-216-030-00	METAL GLAZE 160 5% 1/10W
R715	1-216-030-00	METAL GLAZE 160 5% 1/10W
R716	1-216-030-00	METAL GLAZE 160 5% 1/10W
R717	1-216-198-00	METAL GLAZE 1K 5% 1/8W
R718	1-216-198-00	METAL GLAZE 1K 5% 1/8W
R719	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R720	1-216-090-00	METAL GLAZE 51K 5% 1/10W
RV1	1-228-994-00	RES, ADJ, CARBON 10K
RV2	1-228-997-00	RES, ADJ, CARBON 100K
RV101	1-237-606-11	RES, ADJ, METAL GRAZE 22K
RV102	1-237-606-11	RES, ADJ, METAL GRAZE 22K
RV201	1-237-606-11	RES, ADJ, METAL GRAZE 22K
RV202	1-237-606-11	RES, ADJ, METAL GRAZE 22K
S10	A-3239-952-A	CONTACT ASSY (WHTH SWITCH)
S11	1-571-138-11	SWITCH, PUSH (1 KEY)(F/R)
S12	1-571-138-11	SWITCH, PUSH (1 KEY)(TAPE-IN)
S501	1-553-510-00	SWITCH, SLIDE (ACC)
S502	1-553-510-00	(XR-7191:E)...SWITCH, SLIDE (9K/10K)
S601	1-570-827-11	SWITCH, SLIDE (SSJ3)(2SP/4SP)
S700	1-554-813-41	SWITCH, KEY BOARD (TAPE)
S701	1-554-813-41	SWITCH, KEY BOARD (AMS/SEEK +)
S702	1-554-813-41	SWITCH, KEY BOARD (INTRO/1)
S703	1-554-813-41	SWITCH, KEY BOARD (SHUF/5)
S704	1-554-813-41	SWITCH, KEY BOARD (SELECT)
S705	1-554-813-41	SWITCH, KEY BOARD (M.SCAN/A.MEM)

Ref.No.	Part No.	Description
S710	1-554-813-41	SWITCH, KEY BOARD (FM/AM)
S711	1-554-813-41	SWITCH, KEY BOARD (AMS/SEEK-1)
S712	1-554-813-41	SWITCH, KEY BOARD (REPEAT/2)
S713	1-554-813-41	SWITCH, KEY BOARD (ATA/6)
S714	1-571-938-21	SWITCH, KEY BOARD (DSPL)
S715	1-571-938-21	SWITCH, KEY BOARD (METAL/LOUD)
S720	1-554-813-41	SWITCH, KEY BOARD (CD)
S721	1-554-813-41	SWITCH, KEY BOARD (DISC/MANU +)
S722	1-554-813-41	SWITCH, KEY BOARD (BL.SKIP/3)
S723	1-554-813-41	SWITCH, KEY BOARD (SELECT +)
S724	1-554-813-41	SWITCH, KEY BOARD (MUTE)
S725	1-571-938-21	SWITCH, KEY BOARD (DOLBY/LOCAL)
S730	1-554-813-41	SWITCH, KEY BOARD (EJECT)
S731	1-554-813-41	SWITCH, KEY BOARD (DISC/MANU -)
S732	1-554-813-41	SWITCH, KEY BOARD (D.SCAN/4)
S733	1-554-813-41	SWITCH, KEY BOARD (SELECT -)
S734	1-554-813-41	SWITCH, KEY BOARD (OFF)
S735	1-571-938-21	SWITCH, KEY BOARD (MONO)
S740	1-554-813-41	SWITCH, KEY BOARD (RESET)
S901	1-570-771-11	SWITCH (POWER)
X1	1-567-250-11	OSCILLATOR, CERAMIC
X2	1-567-848-11	VIBRATOR, CRYSTAL (7.2MHz)
X501	1-567-821-11	VIBRATOR, CRYSTAL (4.19MHz)

ACCESSORY & PACKING MATERIAL

3-336-617-01	BAG, PROTECTION
*3-349-488-01	CUSHION (UPPER)
*3-349-489-01	CUSHION (LOWER)
*3-353-453-01	(XR-7280)..............INDIVIDUAL CARTON
*3-353-491-01	(XR-7190:AEP)..........INDIVIDUAL CARTON
*3-353-493-01	(XR-7190:E/7191:AEP)...INDIVIDUAL CARTON
3-750-476-21	(XR-7280)........MANUAL, INSTRUCTION
3-750-477-21	(XR-7280)........MANUAL, INSTRUCTION
3-750-878-11	(XR-7190/7191)...MANUAL, INSTRUCTION
3-750-878-51	(XR-7190:E)......MANUAL, INSTRUCTION
3-750-879-11	(XR-7190/7191)...MANUAL, INSTRUCTION
3-750-879-51	(XR-7190:E)......MANUAL, INSTRUCTION

MOUNTING HARDWARE



No.	Part No.	Description	Remarks
251	3-310-655-01	SUPPORT (ND), FITTING	
252	3-302-126-01	SCREW, TAPPING (DIA. 5X20)	
253	7-682-583-04	SCREW +P 5X40	
254	7-684-025-04	N 5, TYPE 2	
255	3-349-410-01	BUSHING	
256	*3-349-456-01	BRACKET (FIX, LEFT)	
	*3-349-457-01	BRACKET (FIX, RIGHT)	
257	*3-349-458-01	FRAME, ORNAMENTAL	

9-953-995-11

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